

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.10.94
Test oil : ISO 4113

Combination No. : 0402746961

Injection pump
Pump designation : PES6P120A720RS7292
EP type number : 0412726897

Governor
Governor design. : RQV350...1150PA1104
 : -2K
Governor no. : 0421815372

Cust. part No. : 0250741202

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 142.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

°NW after s.o.d. : 3.0
S.o.d. blocking
Barrel no. : 1

°NW after s.o.d. : 3.0

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.50
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 280.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 350

Rack travel in mm : 7.30
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.84
Tolerance mm : \pm 0.25

Rated speed rpm : 1208
guide sleeve
travel mm : 9.41
Tolerance mm : \pm 0.25

Rated speed rpm : 836
guide sleeve
travel mm : 5.58
Tolerance mm : \pm 0.25

Rated speed rpm : 367

A02

guide sleeve
travel mm : 1.96
Tolerance mm : \pm 0.25

Rated speed rpm : 417
guide sleeve
travel mm : 2.46
Tolerance mm : \pm 0.25

Rated speed rpm : 510
guide sleeve
travel mm : 3.11
Tolerance mm : \pm 0.25

Rated speed rpm : 1480
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1315

Rack travel in mm : 13.50
Tolerance mm : \pm 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 280.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 108.0
tolerance degree : \pm 4.0

rack travel mm : 13.50
Rated speed rpm : 1195
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1320
Tolerance 1/min : \pm 15

rack travel mm : 0.70
Tolerance mm : \pm 0.70
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 62.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.00
Tolerance mm : \pm 0.10

Rated speed rpm : 250

CRT mm min. : $>$ 6.50

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 14.50
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 14.45
Tolerance mm : \pm 0.10

Rated speed rpm : 750
rack travel mm : 13.70
Tolerance mm : \pm 0.10

Rated speed rpm : 600
rack travel mm : 13.65
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1150
Pressure hPa : 1500
rack travel mm : 14.50
Tolerance mm : \pm 0.05

MEASUREMENT

A03

Pressure hPa : -
Rated speed rpm : 1150
rack travel mm : 11.30
Tolerance mm : \pm 0.15

Rated speed rpm : 1150

Pressure hPa : 870
rack travel mm : 13.70
Tolerance mm : \pm 0.05

Pressure hPa : 380
rack travel mm : 12.00
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : $<$ 270
Check
speed 1/min : $<$ 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 276.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 286.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 165.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.50
Rated speed rpm : 1195
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 14.50
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 7.30
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 1150

Rack travel in mm : 13.50
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 272.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 350

Rack travel in mm : 7.30
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance

cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.84
Tolerance mm : \pm 0.25

Rated speed rpm : 1208
guide sleeve
travel mm : 9.41
Tolerance mm : \pm 0.25

Rated speed rpm : 836
guide sleeve
travel mm : 5.58
Tolerance mm : \pm 0.25

A06

Rated speed rpm : 367
guide sleeve
travel mm : 1.96
Tolerance mm : \pm 0.25

Rated speed rpm : 417
guide sleeve
travel mm : 2.46
Tolerance mm : \pm 0.25

Rated speed rpm : 510
guide sleeve
travel mm : 3.11
Tolerance mm : \pm 0.25

Rated speed rpm : 1480
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1310

Rack travel in mm : 12.50
Tolerance mm : \pm 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 272.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 109.0
tolerance degree : \pm 4.0

rack travel mm : 12.50
Rated speed rpm : 1195

Tolerance 1/min : + 5

rack travel mm : 4.00

Rated speed rpm : 1310

Tolerance 1/min : + 15

rack travel mm : 0.70

Tolerance mm : + 0.70

Rated speed rpm : 1400

LOW IDLE

control lever

position degree : 62.0

tolerance degree : + 4.0

Testing:

Rated speed rpm : 350

rack travel mm : 5.00

Tolerance mm : + 0.10

Rated speed rpm : 250

CRT mm min. : > 6.50

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1150

rack travel mm : 13.50

Tolerance mm : + 0.05

Rated speed rpm : 950

rack travel mm : 13.45

Tolerance mm : + 0.10

Rated speed rpm : 750

rack travel mm : 12.80

Tolerance mm : + 0.10

Rated speed rpm : 600

rack travel mm : 12.70

Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1150

Pressure hPa : 1500

rack travel mm : 13.50

Tolerance mm : + 0.05

A07

MEASUREMENT

Pressure hPa : -

Rated speed rpm : 1150

rack travel mm : 10.80

Tolerance mm : + 0.15

Rated speed rpm : 1150

Pressure hPa : 650

rack travel mm : 12.90

Tolerance mm : + 0.05

Pressure hPa : 250

rack travel mm : 11.40

Tolerance mm : + 0.10

START CUT-OUT

Rated speed rpm : < 270

Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1500

Rated speed rpm : 750

Del. quantity

cm³/1000 strokes : 269.0

Tolerance

cm³/1000 strokes : + 2.0

Check tolerance

cm³/1000S. : + 5.0

Speed

Tolerance

cm³/1000 strokes : 8.0

Check tolerance

cm³/1000S. : 12.0

Aneroid pressure

hPa : 1500

Rated speed rpm : 600

Del. quantity

cm³/1000 strokes : 274.0

Tolerance

cm³/1000 strokes : + 3.0

Check tolerance

cm³/1000S. : + 6.0

Aneroid pressure

hPa : -

Rated speed rpm : 500

Del. quantity

cm³/1000 strokes : 184.0

Tolerance

cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 12.50
Rated speed rpm : 1195
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.50
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 7.30
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.10.94
Test oil : ISO 4113

Combination No. : 0402846061

Injection pump
Pump designation : PE6P120A320RS8024-1
EP type number : 0412826029

Governor
Governor design. : RQV250...1100PA1072
 : -3K
Governor no. : 0421815979

Cust. part No. : 477950-P03

Customer spec. information
Customer : VOLVO-TRUCK
Motor : TD74 EU
Power KW : 169.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2417413089

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1680750008

Outside diameter : 6.0

A09

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 3.60
Tolerance mm : + 0.05

Rack travel in mm : 7.20
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : + 0.30
Check
tolerance °Nw : + 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.40
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 175.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm3/1000S. : + 4.0

Spread
Tolerance
cm3/1000 strokes : 8.0

Check tolerance
cm3/1000S. : 11.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.33
Tolerance mm : + 0.25

Rated speed rpm : 1176
guide sleeve
travel mm : 10.15
Tolerance mm : + 0.25

Rated speed rpm : 733
guide sleeve
travel mm : 5.39
Tolerance mm : + 0.25

Rated speed rpm : 307
guide sleeve
travel mm : 2.29
Tolerance mm : + 0.25

Rated speed rpm : 357
guide sleeve
travel mm : 2.97
Tolerance mm : + 0.25

Rated speed rpm : 390
guide sleeve
travel mm : 3.22
Tolerance mm : + 0.25

Rated speed rpm : 1390
guide sleeve
travel mm : 13.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1290

Rack travel in mm : 7.50
Tolerance mm : + 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1500
Del. quantity
cm3/1000 strokes : 175.0
Tolerance
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000S. : + 4.0
Spread
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 11.0

RATED SPEED

control lever
position degree : 118.0
tolerance degree : + 4.0

rack travel mm : 10.40
Rated speed rpm : 1165
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1240
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1320

LOW IDLE

control lever
position degree : 65.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.40
Tolerance mm : + 0.30

Rated speed rpm : 200
CRT mm min. : > 6.50

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 650
rack travel mm : 9.10
Tolerance mm : \pm 0.10

Rated speed rpm : 300
rack travel mm : 8.30
Tolerance mm : \pm 0.30

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1500
rack travel mm : 11.40
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 7.20
Tolerance mm : \pm 0.10

Rated speed rpm : 1100

Pressure hPa : 580
rack travel mm : 3.50
Tolerance mm : \pm 0.20

Pressure hPa : 120
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 159.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

Aneroid pressure

hPa : -
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 114.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 10.40
Rated speed rpm : 1165
Tolerance 1/min : \pm 5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.10.94
Test oil : ISO 4113
Combination No. : 0402846065
Injection pump
Pump designation : PE6P110A320RS8009-1
EP type number : 0412816011
Governor
Governor design. : RQV300...1050PA1183
Governor no. : 0421814111
Cust. part No. : 11030876
: -P03 V.9.94

Customer-spec. information
Customer : VME
Motor : TD 73 KDE
Power kW : 149.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 2417413078
Inlet press. bar : 2.5
Tolerance bar : + 0.1
Test nozzle holde
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1680750008
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0
Prestroke mm : 3.85
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.00
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.50

BASIC SETTING

Rated speed rpm : 700
Rack travel in mm : 10.90
Tolerance mm : + 0.05
Del. quantity
cm3/1000 strokes : 178.0
Tolerance
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000S. : + 3.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.19
Tolerance mm : ± 0.25

Rated speed rpm : 1107
guide sleeve
travel mm : 7.85
Tolerance mm : ± 0.25

Rated speed rpm : 804
guide sleeve
travel mm : 5.19
Tolerance mm : ± 0.25

Rated speed rpm : 385
guide sleeve
travel mm : 1.98
Tolerance mm : ± 0.25

Rated speed rpm : 435
guide sleeve
travel mm : 2.45
Tolerance mm : ± 0.25

Rated speed rpm : 530
guide sleeve
travel mm : 3.11
Tolerance mm : ± 0.25

Rated speed rpm : 1400
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1200

Rack travel in mm : 11.00
Tolerance mm : ± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 178.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 44.0
tolerance degree : ± 4.0

control lever
position degree : 111.0
tolerance degree : ± 4.0

rack travel mm : 9.90
Rated speed rpm : 1095
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1170
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 81.0
tolerance degree : ± 4.0

control lever
position degree : 17.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.20
Tolerance mm : ± 0.30

Rated speed rpm : 200
CRT mm min. : > 7.60
Rated speed rpm : 370

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 10.90
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.00
Tolerance mm : \pm 0.15

Rated speed rpm : 500

Pressure hPa : 650
rack travel mm : 2.40
Tolerance mm : \pm 0.20

Pressure hPa : 280
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 117.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 9.90
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.10.94

Test oil : ISO 4113

Combination No. : 0402944300

Injection pump

Pump designation : PES4P120A720RS8506

EP type number : 0412924201

Governor

Governer design. : RQV350...1150PA1117K

Governer no. : 0421815380

Cust. part No. : 0250741902

Customer-spec. information

Customer : MB-NFZ

Motor : OM364LA

Power KW : 104.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 2417413082

Inlet press. bar : 2.5

Tolerance bar : ± 0.1

Overflow quantity

min. l/h : 85

Tolerance l/h : ± 10.0

Test nozzle holde assembly

: 1688901105

Opening pressure bar

: 208.5

Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0

Tolerance bar : ± 1.0

Prestroke mm : 5.50

Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50

Tolerance mm : ± 0.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : ± 0.30

Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

°NW after s.o.d. : 2.1

S.o.d. blocking
Barrel no. : 1

°NW after s.o.d. : 2.1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 12.80
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 242.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 14.0

2nd speed rpm : 350

Rack travel in mm : 7.20
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 15.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance

cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 14.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.63
Tolerance mm : \pm 0.15

Rated speed rpm : 1208
guide sleeve
travel mm : 9.38
Tolerance mm : \pm 0.20

Rated speed rpm : 837
guide sleeve
travel mm : 5.57
Tolerance mm : \pm 0.25

Rated speed rpm : 368

guide sleeve
travel mm : 1.85
Tolerance mm : \pm 0.25

Rated speed rpm : 418
guide sleeve
travel mm : 2.37
Tolerance mm : \pm 0.25

Rated speed rpm : 520
guide sleeve
travel mm : 3.18
Tolerance mm : \pm 0.25

Rated speed rpm : 1490
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1300

Rack travel in mm : 12.50
Tolerance mm : \pm 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : 1600
Del. quantity
cm³/1000 strokes : 242.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 14.0

RATED SPEED

control lever
position degree : 109.0
tolerance degree : \pm 4.0

rack travel mm : 11.80
Rated speed rpm : 1195
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1295
Tolerance 1/min : + 15

rack travel mm : 0.70
Tolerance mm : + 0.70
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 66.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 250

CRT mm min. : > 7.85

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 12.80
Tolerance mm : + 0.05

Rated speed rpm : 1000
rack travel mm : 12.80
Tolerance mm : + 0.05

Rated speed rpm : 925
rack travel mm : 12.80
Tolerance mm : + 0.05

Rated speed rpm : 750
rack travel mm : 12.30
Tolerance mm : + 0.10

Rated speed rpm : 600
rack travel mm : 11.50
Tolerance mm : + 0.10

Rated speed rpm : 500
rack travel mm : 11.00
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1150
Pressure hPa : 1600
rack travel mm : 12.80
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1150
rack travel mm : 9.60
Tolerance mm : + 0.15

Rated speed rpm : 1150

Pressure hPa : 750
rack travel mm : 12.10
Tolerance mm : + 0.05

Pressure hPa : 400
rack travel mm : 10.80
Tolerance mm : + 0.10

START CUT-OUT

Rated speed rpm : < 270
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 246.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 9.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 14.0

Aneroid pressure
hPa : 1600
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 218.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 8.0
Spread

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 14.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 127.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 6.0

BREAKAWAY

Rack travel in mm : 11.80
Rated speed rpm : 1195
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.80
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 7.20
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 14.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 07.10.94
Test oil : ISO 4113
Combination No. : 0402946301
Injection pump
Pump designation : PES6P120A720LS8503
EP type number : 0412926203
Governor
Governor design. : RQV300...950PA1084K
Governor no. : 0421815985

Cust. part No. : 0240749202

Customer-spec. information
Customer : MB-NFZ
Motor : OM447 LA
Power KW : 260.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2417413082

Inlet press. bar : 3.0
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 70
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.85
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.50
Tolerance mm : ± 0.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm :	4.00
Tolerance mm :	+ 0.20
<hr/>	
Del. quantity cm ³ /1000 strokes :	40.0
<hr/>	
Tolerance cm ³ /1000 strokes :	+ 3.0
<hr/>	
Check tolerance cm ³ /1000S. :	+ 6.0
<hr/>	
Speed	
Tolerance cm ³ /1000 strokes :	6.0
Check tolerance cm ³ /1000S. :	9.0
Rated speed rpm :	950
<hr/>	
Rack travel in mm :	13.50
Tolerance mm :	+ 0.05
<hr/>	
Del. quantity cm ³ /1000 strokes :	389.0
<hr/>	
Tolerance cm ³ /1000 strokes :	+ 1.0
<hr/>	
Check tolerance cm ³ /1000S. :	+ 6.0
<hr/>	
Speed	
Tolerance cm ³ /1000 strokes :	10.0
<hr/>	
Check tolerance cm ³ /1000S. :	14.0
2nd speed rpm :	300
<hr/>	
Rack travel in mm :	5.20
Tolerance mm :	+ 0.30
Del. quantity cm ³ /1000 strokes :	19.0
Tolerance cm ³ /1000 strokes :	+ 3.0
Check tolerance cm ³ /1000S. :	+ 6.0
Speed	
Tolerance cm ³ /1000 strokes :	8.0
Check tolerance cm ³ /1000S. :	14.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm :	300
guide sleeve travel mm :	1.69
Tolerance mm :	+ 0.20
<hr/>	
Rated speed rpm :	1006
guide sleeve travel mm :	7.42
Tolerance mm :	+ 0.15
<hr/>	
Rated speed rpm :	790
guide sleeve travel mm :	4.79
Tolerance mm :	+ 0.25
<hr/>	
Rated speed rpm :	345
guide sleeve travel mm :	2.33
Tolerance mm :	+ 0.25
<hr/>	
Rated speed rpm :	395
guide sleeve travel mm :	2.79
Tolerance mm :	+ 0.25
<hr/>	
Rated speed rpm :	500
guide sleeve travel mm :	3.17
Tolerance mm :	+ 0.25
<hr/>	
Rated speed rpm :	1169
guide sleeve travel mm :	12.00
Tolerance mm :	+ 0.25
<hr/>	
Rated speed rpm :	1250
guide sleeve travel mm :	13.50
Tolerance mm :	+ 0.50

GUIDE SLEEVE POSITION

control lever position degree :	- 1
Rated speed rpm :	1160
<hr/>	
Rack travel in mm :	12.50
Tolerance mm :	+ 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 389.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 10.0
 Check tolerance
 cm³/1000S. : 14.0

RATED SPEED

control lever
 position degree : 110.0
 tolerance degree : ± 4.0

rack travel mm : 12.50
 Rated speed rpm : 995
 Tolerance 1/min : ± 5

rack travel mm : 4.00
 Rated speed rpm : 1075
 Tolerance 1/min : ± 15

rack travel mm : 0.75
 Tolerance mm : ± 0.75
 Rated speed rpm : 1250

LOW IDLE

control lever
 position degree : 72.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.00
 Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 6.50

Rated speed rpm : 370

TORQUE CONTROL

Rated speed rpm : 950
 rack travel mm : 13.50

Tolerance mm : ± 0.05

Rated speed rpm : 850
 rack travel mm : 12.70
 Tolerance mm : ± 0.10

Rated speed rpm : 550
 rack travel mm : 11.00
 Tolerance mm : ± 0.20

Rated speed rpm : 400
 rack travel mm : 10.40
 Tolerance mm : ± 0.20

Rated speed rpm : 850
 rack travel mm : 10.75
 Tolerance mm : ± 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 950
 Pressure hPa : 1200
 rack travel mm : 13.50
 Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 850
 rack travel mm : 8.25
 Tolerance mm : ± 0.15

Pressure hPa : -
 Rated speed rpm : 350
 rack travel mm : 7.40
 Tolerance mm : ± 0.20

Rated speed rpm : 950

Pressure hPa : 350
 rack travel mm : 9.35
 Tolerance mm : ± 0.15

Pressure hPa : 600
 rack travel mm : 10.75
 Tolerance mm : ± 0.15

START CUT-OUT

Rated speed rpm : < 220
 Check
 speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 850
Del. quantity
cm³/1000 strokes : 374.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 7.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 360.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 8.0

Aneroid pressure
hPa : 600
Rated speed rpm : 850
Del. quantity
cm³/1000 strokes : 304.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 6.5

Aneroid pressure
hPa : -
Rated speed rpm : 850
Del. quantity
cm³/1000 strokes : 207.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 6.0

BREAKAWAY

Rack travel in mm : 12.50
Rated speed rpm : 995
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.50
Tolerance mm : ± 0.40

Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 14.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.10.94
Test oil : ISO 4113
Combination No. : 0403244034
Injection pump
Pump designation : PES4MM100/720RS1519
: -3
EP type number : 0413204018
Governor
Governor design. : RQV300...1300MW132
: -3
Governor no. : 0420083296
Cust. part No. : 0240740702

Customer spec. information
Customer : MB-NFZ
Motor : OM364LA
Power KW : 77.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test Lines : 1680750089
Outside diameter : 8.0

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x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 4.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 21.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.50
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 95.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 3.0

Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 0.91
Tolerance mm : ± 0.25

Rated speed rpm : 1345
guide sleeve
travel mm : 7.64
Tolerance mm : ± 0.25

Rated speed rpm : 1140
guide sleeve
travel mm : 5.88
Tolerance mm : ± 0.25

Rated speed rpm : 629
guide sleeve
travel mm : 3.15
Tolerance mm : ± 0.25

Rated speed rpm : 679
guide sleeve
travel mm : 3.53
Tolerance mm : ± 0.25

Rated speed rpm : 800
guide sleeve
travel mm : 4.00
Tolerance mm : ± 0.25

Rated speed rpm : 1596
guide sleeve
travel mm : 12.00
Tolerance mm : ± 0.25

Rated speed rpm : 1690
guide sleeve
travel mm : 13.50

Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1400

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : 700
Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spread
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 112.0
tolerance degree : ± 4.0

rack travel mm : 10.50
Rated speed rpm : 1345
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1435
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 70.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.00
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : $>$ 4.50

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 11.50
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 11.50
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 11.50
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.70
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 290
rack travel mm : 11.25
Tolerance mm : \pm 0.10

Pressure hPa : 250
rack travel mm : 11.00
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $<$ 200
Check
speed 1/min : $<$ 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 86.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 66.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.50
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.10.94
Test oil : ISO 4113
Combination No. : 0403244035
Injection pump
Pump designation : PES4MW100/720RS1519
 : -3
EP type number : 0413204018
Governor
Governor design. : RQV300...1300MW132
 : -3
Governor no. : 0420083296
Cust. part No. : 0240740802

Customer-spec. information
Customer : MB-NFZ
Motor : OM364LA
Power KW : 77.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750089
Outside diameter : 8.0

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x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.55
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 21.00
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 11.50
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.5

Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 0.91
Tolerance mm : \pm 0.25

Rated speed rpm : 1345
guide sleeve
travel mm : 7.64
Tolerance mm : \pm 0.25

Rated speed rpm : 1140
guide sleeve
travel mm : 5.88
Tolerance mm : \pm 0.25

Rated speed rpm : 629
guide sleeve
travel mm : 3.15
Tolerance mm : \pm 0.25

Rated speed rpm : 679
guide sleeve
travel mm : 3.53
Tolerance mm : \pm 0.25

Rated speed rpm : 800
guide sleeve
travel mm : 4.00
Tolerance mm : \pm 0.25

Rated speed rpm : 1596
guide sleeve
travel mm : 12.00
Tolerance mm : \pm 0.25

Rated speed rpm : 1690
guide sleeve
travel mm : 13.50

Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1400

Rack travel in mm : 16.50
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : 700

Del. quantity
cm³/1000 strokes : 95.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 3.0

Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 112.0
tolerance degree : \pm 4.0

rack travel mm : 10.50
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1435
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 70.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.00
Tolerance mm : ± 0.10

Rated speed rpm : 200
CRT mm min. : > 4.50

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 11.50
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 11.50
Tolerance mm : ± 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 11.50
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.70
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 290
rack travel mm : 11.25
Tolerance mm : ± 0.10

Pressure hPa : 250
rack travel mm : 11.00
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : < 200
Check
speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 86.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 66.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 10.50
Rated speed rpm : 1345
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.10.94
Test oil : ISO 4113
Combination No. : 0403244043
Injection pump
Pump designation : PES4MW100/720RS1519
: -2
EP type number : 0413204017
Governor
Governor design. : RQV300...1300MW132
: -6
Governor no. : 0420083309
Cust. part No. : 0240744102

Customer-spec. information
Customer : MB-NFZ
Motor : OM364LA
Power KW : 103.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750089
Outside diameter : 8.0

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x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.55
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 21.00
Firing order : 1-3-4-2
Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 13.90
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 126.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Spreed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 0.91
Tolerance mm : ± 0.25

Rated speed rpm : 1354
guide sleeve
travel mm : 7.77
Tolerance mm : ± 0.25

Rated speed rpm : 1140
guide sleeve
travel mm : 5.88
Tolerance mm : ± 0.25

Rated speed rpm : 629
guide sleeve
travel mm : 3.15
Tolerance mm : ± 0.25

Rated speed rpm : 679
guide sleeve
travel mm : 3.53
Tolerance mm : ± 0.25

Rated speed rpm : 800
guide sleeve
travel mm : 4.00
Tolerance mm : ± 0.25

Rated speed rpm : 1596
guide sleeve
travel mm : 12.00
Tolerance mm : ± 0.25

Rated speed rpm : 1690
guide sleeve
travel mm : 13.50

Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1510

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 126.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 116.0
tolerance degree : ± 4.0

rack travel mm : 12.90
Rated speed rpm : 1345
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1465
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 71.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.90
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : $>$ 4.50

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 13.90
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 13.90
Tolerance mm : \pm 0.10

Rated speed rpm : 600
rack travel mm : 13.90
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 13.90
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.10
Tolerance mm : \pm 0.10

Rated speed rpm : 500
Pressure hPa : 600
rack travel mm : 13.10
Tolerance mm : \pm 0.10

Pressure hPa : 350
rack travel mm : 11.60
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $<$ 200
Check
speed 1/min : $<$ 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 124.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 126.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 67.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 12.90
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.10.94
Test oil : ISO 4113

Combination No. : 0403446287

Injection pump
Pump designation : PES6MW100/320RS1219
EP type number : 0413406209

Governor
Governor design. : RQV350...1100MW118
Governor no. : 0420083249

Cust. part No. :

Customer spec. information
Customer : VME
Motor : TD 61 GB
Power KW : 115.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1457413010

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

B07

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.70
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 113.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance cm ³ /1000S.	: 6.0
Del. quantity cm ³ /1000 strokes	: 20.0
Tolerance cm ³ /1000 strokes	: ± 2.0
Check tolerance cm ³ /1000S.	: ± 4.5
Spread Tolerance cm ³ /1000 strokes	: 3.5
Check tolerance cm ³ /1000S.	: 5.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	: - 1
Rated speed rpm	: 1200
Rack travel in mm	: 10.70
Tolerance mm	: ± 0.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure hPa	: 1000
Del. quantity cm ³ /1000 strokes	: 113.0
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 3.0
Spread Tolerance cm ³ /1000 strokes	: 3.5
Check tolerance cm ³ /1000S.	: 6.0

RATED SPEED

control lever position degree	: 109.0
tolerance degree	: ± 4.0
rack travel mm	: 10.70
Rated speed rpm	: 1145

Tolerance 1/min	: ± 5
rack travel mm	: 4.00
Rated speed rpm	: 1215
Tolerance 1/min	: ± 15
rack travel mm	: 0.55
Tolerance mm	: ± 0.45
Rated speed rpm	: 1300

LOW IDLE

control lever position degree	: 75.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm	: 350
rack travel mm	: 5.70
Tolerance mm	: ± 0.10
rack travel mm	: 2.00
Rated speed rpm	: 490
Tolerance 1/min	: ± 30
Rated speed rpm	: 200
CRT mm min.	: > 8.00

TORQUE CONTROL

Rated speed rpm	: 1100
rack travel mm	: 11.70
Tolerance mm	: ± 0.05
Rated speed rpm	: 700
rack travel mm	: 12.60
Tolerance mm	: ± 0.10
Rated speed rpm	: 1010
rack travel mm	: 12.00
Tolerance mm	: ± 0.15
Rated speed rpm	: 970
rack travel mm	: 12.30
Tolerance mm	: ± 0.15

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm	: 700
Pressure hPa	: 1000

rack travel mm : 12.60
Tolerance mm : + 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 700
rack travel mm : 10.00
Tolerance mm : + 0.05

Rated speed rpm : 700

Pressure hPa : 780
rack travel mm : 12.25
Tolerance mm : + 0.15

Pressure hPa : 250
rack travel mm : 10.25
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 270
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 124.0
Tolerance
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000S. : + 4.0
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 78.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0

BREAKAWAY

Rack travel in mm : 10.70

Rated speed rpm : 1145
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : + 1.00
Del. quantity
cm³/1000 strokes : 130.0
Tolerance
cm³/1000 strokes : + 17.0
Check tolerance
cm³/1000S. : + 20.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.10.94
Test oil : ISO 4113
Combination No. : 0401646002
Injection pump
Pump designation : PES6R120/720LS1505
EP type number : 0411626004

Governor
Governor design. : RGV300...1100R3K
Governor no. : 0421415004

Cust. part No. : 51.11103-7234

Customer-spec. information

Customer : MAN
Motor : D2866LE401
Power KW : 440.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test Lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 12.00
Tolerance mm : ± 0.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 15.30
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 385.0

Tolerance	
cm3/1000 strokes	: + 1.0
Check tolerance	
cm3/1000S.	: + 4.0
Spreed	
Tolerance	
cm3/1000 strokes	: 5.0
Check tolerance	
cm3/1000S.	: 9.0
2nd speed rpm	: 325
Rack travel in mm	: 5.30
Tolerance mm	: + 0.20
Del. quantity	
cm3/1000 strokes	: 20.0
Tolerance	
cm3/1000 strokes	: + 3.0
Check tolerance	
cm3/1000S.	: + 6.0
Spreed	
Tolerance	
cm3/1000 strokes	: 8.0
Check tolerance	
cm3/1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 325
guide sleeve	
travel mm	: 2.12
Tolerance mm	: + 0.25
Rated speed rpm	: 1164
guide sleeve	
travel mm	: 10.04
Tolerance mm	: + 0.25
Rated speed rpm	: 826
guide sleeve	
travel mm	: 6.86
Tolerance mm	: + 0.25
Rated speed rpm	: 338
guide sleeve	
travel mm	: 2.28
Tolerance mm	: + 0.25
Rated speed rpm	: 388
guide sleeve	
travel mm	: 2.90

Tolerance mm	: + 0.25
Rated speed rpm	: 510
guide sleeve	
travel mm	: 4.02
Tolerance mm	: + 0.25
Rated speed rpm	: 1430
guide sleeve	
travel mm	: 13.50
Tolerance mm	: + 0.50

GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 1240
Rack travel in mm	: 14.30
Tolerance mm	: + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure	
hPa	: 2500
Del. quantity	
cm3/1000 strokes	: 385.0
Tolerance	
cm3/1000 strokes	: + 1.0
Check tolerance	
cm3/1000S.	: + 4.0
Spreed	
Tolerance	
cm3/1000 strokes	: 5.0
Check tolerance	
cm3/1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 122.0
tolerance degree	: + 4.0
rack travel mm	: 14.30
Rated speed rpm	: 1152
Tolerance 1/min	: + 8
rack travel mm	: 4.00
Rated speed rpm	: 1295
Tolerance 1/min	: + 15
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1425

LOW IDLE

control lever
position degree : 76.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 5.30
Tolerance mm : \pm 0.10

Rated speed rpm : 225
CRT mm min. : $>$ 7.00

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 15.30
Tolerance mm : \pm 0.05

Rated speed rpm : 900
rack travel mm : 13.90
Tolerance mm : \pm 0.10

Rated speed rpm : 700
rack travel mm : 12.60
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 2500
rack travel mm : 15.30
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : 300
Rated speed rpm : 1100
rack travel mm : 8.60
Tolerance mm : \pm 0.05

Rated speed rpm : 1100

Pressure hPa : 1400
rack travel mm : 13.60
Tolerance mm : \pm 0.15

START CUT-OUT

Rated speed rpm : $>$ 260
Check
speed 1/min : $>$ 280

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2500
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 352.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : 2500
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 329.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 187.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 14.30
Rated speed rpm : 1152
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 17.00
Del. quantity
cm³/1000 strokes : 555.0
Tolerance
cm³/1000 strokes : \pm 10.0

Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 5.30
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.10.94
Test oil : ISO 4113

Combination No. : 0401646003

Injection pump
Pump designation : PES6R120/720LS1505
: -1
EP type number : 0411626005

Governor
Governor design. : RQV300...1100R3K
Governor no. : 0421415004

Cust. part No. : 51.11103-7393

Customer-spec. information
Customer : MAN
Motor : D2866LE401
Power KW : 440.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750089

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.45
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 12.00
Tolerance mm : + 0.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 15.30
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 385.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 325

Rack travel in mm : 5.30
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
guide sleeve
travel mm : 2.12
Tolerance mm : ± 0.25

Rated speed rpm : 1164
guide sleeve
travel mm : 10.04
Tolerance mm : ± 0.25

Rated speed rpm : 826
guide sleeve
travel mm : 6.86
Tolerance mm : ± 0.25

Rated speed rpm : 338
guide sleeve
travel mm : 2.28
Tolerance mm : ± 0.25

Rated speed rpm : 388

guide sleeve
travel mm : 2.90
Tolerance mm : ± 0.25

Rated speed rpm : 510
guide sleeve
travel mm : 4.02
Tolerance mm : ± 0.25

Rated speed rpm : 1430
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1240

Rack travel in mm : 14.30
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 2500

Del. quantity
cm³/1000 strokes : 385.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 122.0
tolerance degree : ± 4.0

rack travel mm : 14.30
Rated speed rpm : 1152
Tolerance 1/min : ± 8

rack travel mm : 4.00
Rated speed rpm : 1295
Tolerance 1/min : ± 15

rack travel mm : 0.50

Tolerance mm : \pm 0.50
Rated speed rpm : 1425

LOW IDLE

control lever
position degree : 76.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 5.30
Tolerance mm : \pm 0.10

Rated speed rpm : 225
CRT mm min. : $>$ 7.00

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 15.30
Tolerance mm : \pm 0.05

Rated speed rpm : 900
rack travel mm : 13.90
Tolerance mm : \pm 0.10

Rated speed rpm : 700
rack travel mm : 12.60
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 2500
rack travel mm : 15.30
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 1100

Pressure hPa : 1400
rack travel mm : 13.60
Tolerance mm : \pm 0.15

Pressure hPa : 300
rack travel mm : 8.60

Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 260
Check
speed 1/min : $>$ 280

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2500
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 352.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : 2500
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 329.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 187.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 14.30
Rated speed rpm : 1152
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 17.00
Del. quantity
cm³/1000 strokes : 555.0
Tolerance
cm³/1000 strokes : \pm 10.0

Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 5.30
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.10.94
Test oil : ISO 4113
Combination No. : 0402036744
Injection pump
Pump designation : PES6P120A720/3LS3255
EP type number : 0412026739

Governor
Governor design. : RQV300...1000PA876
 : -12
Governor no. : 0421813897

Cust. part No. : 3-7039

Customer spec. information
Customer : MAN
Motor : D2866LF05
Power kW : 272.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1688901019

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750067

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 3.75
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 15.00
Tolerance mm : + 0.50

Firing order : 6- 2- 4- 1- 5-
 : 3

Phasing : 0-60-120-180-240
 : -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 700

Del. quantity
cm³/1000 strokes : 50.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spreed

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 700

Rack travel in mm : 15.15
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 245.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

2nd speed rpm : 300

Rack travel in mm : 5.00
Tolerance mm : + 0.20

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1

Rated speed rpm : 1100

Rack travel in mm : 16.50
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure

hPa : 1200

Del. quantity
cm³/1000 strokes : 245.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 302.0

tolerance degree : + 4.0

rack travel mm : 14.10

Rated speed rpm : 1045

Tolerance 1/min : + 5

rack travel mm : 4.00

Rated speed rpm : 1165

Tolerance 1/min : + 15

rack travel mm : 0.50

Tolerance mm : + 0.50

Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 258.0

tolerance degree : + 4.0

Testing:

Rated speed rpm : 300

rack travel mm : 5.00

Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm min. : > 6.50

Rated speed rpm : 340

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 15.15
Tolerance mm : ± 0.05

Rated speed rpm : 1000
rack travel mm : 15.15
Tolerance mm : ± 0.05

Rated speed rpm : 700
rack travel mm : 8.00
Tolerance mm : ± 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 15.15
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 12.10
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 470
rack travel mm : 14.20
Tolerance mm : ± 0.20

Pressure hPa : 110
rack travel mm : 12.35
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1000

B20

Del. quantity
cm³/1000 strokes : 245.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 94.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0
Speed
Tolerance
cm³/1000 strokes : 10.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 139.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 14.10
Rated speed rpm : 1045
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 220.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.00
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000S. : + 6.0
Speed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0



Note remarks

Edition : 28.10.94
Test oil : ISO 4113

Injection pump
Pump designation : PES6P120A720/3LS3255
: -3
EP type number : 0412026774

Governor
Governor design. : RGV300...1000PA876
 : -12
Governor no. : 0421813897

Customer-spec. information

Customer : MAN
Motor : D2866LF05
Power KW : 272.0

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Inlet press. bar : 1.5

Opening pressure : 208.5
Tolerance bar : \pm 1.5

Test Lines : 1680750067

x inside diameter : 3.0
x length mm : 1000

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 3.75
Tolerance mm : \pm 0.05

test only : ± 0.10

Rack travel in mm : 15.00
Tolerance mm : ± 0.50

Firing order : 6- 2- 4- 1- 5-
: 3

```

Phasing      : 0-60-120-180-240
              : -300
Tolerance    : + 0.30
Check
tolerance °NW : + 0.75

```

Time to cyl. no. : 6

Rated speed rpm : 700

Del. quantity
cm³/1000 strokes : 50.0

Tolerance	
cm ³ /1000 strokes	: ± 3.0
Check tolerance	
cm ³ /1000S.	: ± 6.0
Speed	
Tolerance	
cm ³ /1000 strokes	: 3.5
Check tolerance	
cm ³ /1000S.	: 8.0
Rated speed rpm	: 700
Rack travel in mm	: 15.15
Tolerance mm	: ± 0.05
Del. quantity	
cm ³ /1000 strokes	: 245.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Speed	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0
2nd speed rpm	: 300
Rack travel in mm	: 5.00
Tolerance mm	: ± 0.20
Del. quantity	
cm ³ /1000 strokes	: 20.0
Tolerance	
cm ³ /1000 strokes	: ± 3.0
Check tolerance	
cm ³ /1000S.	: ± 6.0
Speed	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300

guide sleeve	
travel mm	: 1.69
Tolerance mm	: ± 0.25
Rated speed rpm	: 1059
guide sleeve	
travel mm	: 10.13
Tolerance mm	: ± 0.25
Rated speed rpm	: 793
guide sleeve	
travel mm	: 6.88
Tolerance mm	: ± 0.25
Rated speed rpm	: 318
guide sleeve	
travel mm	: 1.89
Tolerance mm	: ± 0.25
Rated speed rpm	: 368
guide sleeve	
travel mm	: 2.47
Tolerance mm	: ± 0.25
Rated speed rpm	: 500
guide sleeve	
travel mm	: 3.63
Tolerance mm	: ± 0.25
Rated speed rpm	: 1270
guide sleeve	
travel mm	: 13.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 1100
Rack travel in mm	: 16.50
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm ³ /1000 strokes	: 245.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Speed	
Tolerance	
cm ³ /1000 strokes	: 8.0

Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 302.0
tolerance degree : \pm 4.0

rack travel mm : 14.10
Rated speed rpm : 1045
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1165
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 258.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.00
Tolerance mm : \pm 0.10

Rated speed rpm : 200

CRT mm min. : $>$ 6.50

Rated speed rpm : 340

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 15.15
Tolerance mm : \pm 0.05

Rated speed rpm : 1000
rack travel mm : 15.15
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 8.00
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 15.15
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 12.10
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 470
rack travel mm : 14.20
Tolerance mm : \pm 0.20

Pressure hPa : 110
rack travel mm : 12.35
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $<$ 220
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 245.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 94.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0
Speed

Tolerance
cm³/1000 strokes : 10.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 139.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 14.10
Rated speed rpm : 1045
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 220.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.00
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.94
Test oil : ISO 4113

Combination No. : 0402646640

Injection pump :
Pump designation : PE6P120A32ORS7311
 : -10
EP type number : 0412626932

Governor
Governor design. : RQV275...1150PA1110K
Governor no. : 0421815375

Cust. part No. : 1280143/7

Customer spec. information
Customer : DAF
Motor : RS 222 M
Power Kw : 222.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750089

B26

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1130

Rack travel in mm : 13.55
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 218.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 275

Rack travel in mm : 4.60
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 16.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 1.56
Tolerance mm : \pm 0.25

Rated speed rpm : 1203
guide sleeve
travel mm : 10.07
Tolerance mm : \pm 0.25

Rated speed rpm : 814
guide sleeve
travel mm : 6.79
Tolerance mm : \pm 0.25

Rated speed rpm : 300
guide sleeve
travel mm : 2.13
Tolerance mm : \pm 0.25

Rated speed rpm : 350

guide sleeve
travel mm : 2.90
Tolerance mm : \pm 0.25

Rated speed rpm : 460
guide sleeve
travel mm : 3.90
Tolerance mm : \pm 0.25

Rated speed rpm : 1480
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1280

Rack travel in mm : 12.80
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1130
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 218.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 121.0
tolerance degree : \pm 4.0

rack travel mm : 12.55
Rated speed rpm : 1192
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1315
Tolerance 1/min : \pm 15

rack travel mm : 0.70

Tolerance mm : \pm 0.70
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 69.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 3.80
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 330
Tolerance 1/min : \pm 20

Rated speed rpm : 175

CRT mm min. : $>$ 6.00

TORQUE CONTROL

Rated speed rpm : 1130
rack travel mm : 13.55
Tolerance mm : \pm 0.05

Rated speed rpm : 850
rack travel mm : 12.80
Tolerance mm : \pm 0.05

Rated speed rpm : 775
rack travel mm : 12.45
Tolerance mm : \pm 0.10

Rated speed rpm : 650
rack travel mm : 12.20
Tolerance mm : \pm 0.10

Rated speed rpm : 500
rack travel mm : 12.10
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1130
Pressure hPa : 1500
rack travel mm : 13.55
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1130
rack travel mm : 9.40
Tolerance mm : \pm 0.10

Rated speed rpm : 1130

Pressure hPa : 580
rack travel mm : 12.40
Tolerance mm : \pm 0.05

Pressure hPa : 320
rack travel mm : 10.60
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 850
Del. quantity
cm³/1000 strokes : 224.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 146.5
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.55
Rated speed rpm : 1192
Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 275
rack travel mm : 4.60
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.94
Test oil : ISO 4113
Combination No. : 0402646654
Injection pump
Pump designation : PE6P120A320RS7360Z
EP type number : 0412626937
Governor
Governor design. : RQ275/1150PA1193
Governor no. : 0421801752

Cust. part No. : 1285911/0

Customer-spec. information
Customer : DAF
Motor : GS 160 M
Power KW : 160.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 11.40
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 10.40
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 150.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 275

Rack travel in mm : 4.90
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 15.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 1.92
Tolerance mm : + 0.10

Rated speed rpm : 1206
guide sleeve
travel mm : 6.49
Tolerance mm : + 0.10

Rated speed rpm : 1150
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 351
guide sleeve
travel mm : 4.25
Tolerance mm : + 0.10

Rated speed rpm : 440
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 1360
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.10

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 550

Rack travel in mm : 15.80
Tolerance mm : + 0.60

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 150.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 97.0
tolerance degree : + 4.0

rack travel mm : 9.40
Rated speed rpm : 1202
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1265
Tolerance 1/min : + 15

rack travel mm : 0.70
Tolerance mm : + 0.70
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 74.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 4.90
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 340
Tolerance 1/min : \pm 20

Rated speed rpm : 175

CRT mm min. : $>$ 7.00

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 10.40
Tolerance mm : \pm 0.05

Rated speed rpm : 1150
rack travel mm : 10.40
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 10.40
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 600
rack travel mm : 9.50
Tolerance mm : \pm 0.10

Rated speed rpm : 600

Pressure hPa : 290
rack travel mm : 10.15
Tolerance mm : \pm 0.05

Pressure hPa : 230
rack travel mm : 9.70
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 131.5
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 9.40
Rated speed rpm : 1202
Tolerance 1/min : \pm 8

LOW IDLE

Rated speed rpm : 275
rack travel mm : 4.90
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.94
Test oil : ISO 4113

Combination No. : 0402646773

Injection pump
Pump designation : PE6P120A32OLS7846
EP type number : 0412626865

Governor
Governor design. : RQV300...1050PA1033
: -15
Governor no. : 0421814120

Cust. part No. : 0250747202

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.00
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 231.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.20
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.29
Tolerance mm : \pm 0.20

Rated speed rpm : 1107
guide sleeve
travel mm : 8.52
Tolerance mm : \pm 0.15

Rated speed rpm : 558
guide sleeve
travel mm : 4.53
Tolerance mm : \pm 0.25

Rated speed rpm : 608

guide sleeve
travel mm : 5.03
Tolerance mm : \pm 0.25

Rated speed rpm : 820
guide sleeve
travel mm : 6.13
Tolerance mm : \pm 0.25

Rated speed rpm : 1183
guide sleeve
travel mm : 10.00
Tolerance mm : \pm 0.25

Rated speed rpm : 1280
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1160

Rack travel in mm : 11.70
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 231.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 120.0
tolerance degree : \pm 4.0

rack travel mm : 12.00
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1170
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 83.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : \pm 0.10

Rated speed rpm : 200

CRT mm min. : $>$ 8.00

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.00
Tolerance mm : \pm 0.05

Rated speed rpm : 1050
rack travel mm : 13.00
Tolerance mm : \pm 0.10

Rated speed rpm : 400
rack travel mm : 11.80
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 13.00
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.40

Tolerance mm : \pm 0.15

Rated speed rpm : 400

Pressure hPa : 400
rack travel mm : 11.80
Tolerance mm : \pm 0.10

Pressure hPa : 600
rack travel mm : 12.80
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $<$ 220

Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1050

Del. quantity
cm³/1000 strokes : 228.0
Tolerance

cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 400
Rated speed rpm : 400

Del. quantity
cm³/1000 strokes : 172.0
Tolerance

cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 138.0
Tolerance

cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.02.93
Test oil : ISO 4113

Combination No. : 0402646790

Injection pump
Pump designation : PE6P120A320LS7864
EP type number : 0412626879

Governor
Governor design. : RQV350...1050PA1052
: -2
Governor no. : 0421814044

Cust. part No. : 0230748302

Customer spec. information

Customer : MB-NFZ
Motor : OM401 LA, Euro 1
Power kW : 213.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 120
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 2.5
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 12.45
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 201.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 350

Rack travel in mm : 5.20
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1190

Rack travel in mm : 11.40
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 201.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 103.0
tolerance degree : + 4.0

rack travel mm : 11.40
Rated speed rpm : 1095
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1160
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 69.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.20
Tolerance mm : + 0.10

Rated speed rpm : 250

CRT mm min. : > 8.70

Rated speed rpm : 415

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 12.45
Tolerance mm : + 0.05

Rated speed rpm : 1050
rack travel mm : 12.45
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Pressure hPa : 200
rack travel mm : 0.45
Tolerance mm : \pm 0.05

Pressure hPa : 450
rack travel mm : 1.80
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : < 270
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 202.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 152.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 127.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.40
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 205.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 5.20
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.94
Test oil : ISO 4113

Combination No. : 0402746922

Injection pump
Pump designation : PES6P120A720LS7238
: -10
EP type number : 0412726873

Governor
Governor design. : RQ300/1100PA1013-3
Governor no. : 0421801609

Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : OM447 hLA
Power KW : 220.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1680750075

112

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.70

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 13.80
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 206.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 6.30
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Speed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure
hPa : 600

Del. quantity
cm³/1000 strokes : 206.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 98.0
tolerance degree : ± 4.0

rack travel mm : 13.50
Rated speed rpm : 1153
Tolerance 1/min : ± 8

rack travel mm : 4.00
Rated speed rpm : 1245
Tolerance 1/min : ± 15

rack travel mm : 0.75
Tolerance mm : ± 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 73.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.30
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 8.40

TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 13.80
Tolerance mm : ± 0.10

Rated speed rpm : 1100
rack travel mm : 14.50
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : 150
rack travel mm : -2.10
Tolerance mm : \pm 0.05

Pressure hPa : 350
rack travel mm : -0.60
Tolerance mm : \pm 0.10

Pressure hPa : 800
rack travel mm : 0.20
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1400
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 222.5
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 141.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.50
Rated speed rpm : 1153
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.30
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.10.94
Test oil : ISO 4113
Combination No. : 0402746993
Injection pump
Pump designation : PES6P120A720LS7341
EP type number : 0412726913
Governor
Governor design. : RQV350...1150PA1159
Governor no. : 0421814099

Cust. part No. : 0250742302

Customer-spec. information
Customer : MTU
Motor : 6-R-183
Power KW : 440.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 10.20
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	: 275.0
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Spread Tolerance cm ³ /1000 strokes	: 6.0
Check tolerance cm ³ /1000S.	: 9.0
2nd speed rpm	: 350
Rack travel in mm	: 4.10
Tolerance mm	: ± 0.30
Del. quantity cm ³ /1000 strokes	: 17.0
Tolerance cm ³ /1000 strokes	: ± 3.0
Check tolerance cm ³ /1000S.	: ± 6.0
Spread Tolerance cm ³ /1000 strokes	: 6.0
Check tolerance cm ³ /1000S.	: 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 350
guide sleeve travel mm	: 1.53
Tolerance mm	: ± 0.15
Rated speed rpm	: 1206
guide sleeve travel mm	: 8.35
Tolerance mm	: ± 0.20
Rated speed rpm	: 950
guide sleeve travel mm	: 5.78
Tolerance mm	: ± 0.25
Rated speed rpm	: 416
guide sleeve travel mm	: 2.77
Tolerance mm	: ± 0.25

Rated speed rpm	: 466
guide sleeve travel mm	: 3.35
Tolerance mm	: ± 0.25

Rated speed rpm	: 600
guide sleeve travel mm	: 3.83
Tolerance mm	: ± 0.25

Rated speed rpm	: 1308
guide sleeve travel mm	: 10.00
Tolerance mm	: ± 0.25

Rated speed rpm	: 1410
guide sleeve travel mm	: 11.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

control lever position degree	: - 1
Rated speed rpm	: 1260

Rack travel in mm	: 13.00
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 600
Aneroid pressure hPa	: 800
Del. quantity cm ³ /1000 strokes	: 275.0
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Spread Tolerance cm ³ /1000 strokes	: 6.0
Check tolerance cm ³ /1000S.	: 9.0

RATED SPEED

control lever position degree	: 120.0
tolerance degree	: ± 4.0
rack travel mm	: 13.10
Rated speed rpm	: 1195
Tolerance 1/min	: ± 5

rack travel mm : 4.00
Rated speed rpm : 1300
Tolerance 1/min : + 15

rack travel mm : 0.75
Tolerance mm : + 0.75
Rated speed rpm : 1400

LOW IDLE

control Lever
position degree : 65.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 4.10
Tolerance mm : + 0.10

Rated speed rpm : 250
CRT mm min. : > 5.60
Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 10.20
Tolerance mm : + 0.05

Rated speed rpm : 1150
rack travel mm : 14.10
Tolerance mm : + 0.10

Rated speed rpm : 800
rack travel mm : 14.10
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 600
rack travel mm : 6.20
Tolerance mm : + 0.10

Pressure hPa : 200
rack travel mm : 7.20
Tolerance mm : + 0.05

Pressure hPa : 400
rack travel mm : 9.00
Tolerance mm : + 0.10

Pressure hPa : 1300
rack travel mm : 11.60
Tolerance mm : + 0.05

Pressure hPa : 1700
rack travel mm : 13.70
Tolerance mm : + 0.10

START CUT-OUT

Rated speed rpm : < 270
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2000
Rated speed rpm : 1150
Del. quantity
cm³/1000 strokes : 332.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 4.5
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.10
Rated speed rpm : 1195
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 15.60
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 410.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 4.10
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.10.94
Test oil : ISO 4113
Combination No. : 0403246037
Injection pump
Pump designation : PES6MW100/720RS1517
: -3
EP type number : 0413206020
Governor
Governor design. : RQV300...1200MW132
: -9
Governor no. : 0420083314
Cust. part No. : 0250748702

Customer spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 125.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1680750089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0
Prestroke mm : 4.55
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 21.00
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1200
Rack travel in mm : 11.25
Tolerance mm : + 0.05
Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0
Speed

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.5

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.02
Tolerance mm : \pm 0.25

Rated speed rpm : 1253
guide sleeve
travel mm : 7.33
Tolerance mm : \pm 0.25

Rated speed rpm : 811
guide sleeve
travel mm : 4.16
Tolerance mm : \pm 0.25

Rated speed rpm : 550
guide sleeve
travel mm : 2.80
Tolerance mm : \pm 0.25

Rated speed rpm : 600
guide sleeve
travel mm : 3.23
Tolerance mm : \pm 0.25

Rated speed rpm : 560
guide sleeve
travel mm : 3.08
Tolerance mm : \pm 0.25

Rated speed rpm : 1750
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1300

Rack travel in mm : 13.00
Tolerance mm : \pm 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 95.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 3.0

Spread
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 119.0
tolerance degree : \pm 4.0

rack travel mm : 10.20
Rated speed rpm : 1245
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1380
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 71.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : $>$ 4.20

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 11.25
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 11.25
Tolerance mm : \pm 0.10

Rated speed rpm : 600
rack travel mm : 11.25
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 11.25
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.40
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 350
rack travel mm : 10.85
Tolerance mm : \pm 0.10

Pressure hPa : 250
rack travel mm : 10.15
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $<$ 220
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 87.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 88.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 57.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.20
Rated speed rpm : 1245
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.94
Test oil : ISO 4113
Combination No. : 0403466148
Injection pump
Pump designation : PES6MW100/120RS1137
: -3
EP type number : 0413406236
Governor
Governor design. : RSV550...1100MW2A335
: -8
Governor no. : 0420085244
Cust. part No. : 3 929 184

Customer-spec. information
Customer : CDC
Motor : 6CTA-830/2188E
Power kW : 209.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1680750014

Outside diameter : 6.0

C23

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1
S.o.d. blocking
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.70
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 175.5

Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Speed	
Tolerance	
cm ³ /1000 strokes	: 4.0
Check tolerance	
cm ³ /1000S.	: 7.5
2nd speed rpm	: 550
Rack travel in mm	: 6.60
Del. quantity	
cm ³ /1000 strokes	: 23.0
Tolerance	
cm ³ /1000 strokes	: ± 2.0
Check tolerance	
cm ³ /1000S.	: ± 4.5
Speed	
Tolerance	
cm ³ /1000 strokes	: 3.5
Check tolerance	
cm ³ /1000S.	: 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever	
position degree	: - 3
Rated speed rpm	: 800
Rack travel in mm	: 0.55
Tolerance mm	: ± 0.20
governor spring	
pre-tension	
click setting x	: 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure	
hPa	: 1300
Del. quantity	
cm ³ /1000 strokes	: 175.5
Tolerance	
cm ³ /1000 strokes	: ± 1.0

Check tolerance	
cm ³ /1000S.	: ± 4.0
Speed	
Tolerance	
cm ³ /1000 strokes	: 4.0
Check tolerance	
cm ³ /1000S.	: 7.5

RATED SPEED

control lever	
position degree	: 92.0
tolerance degree	: ± 4.0
rack travel mm	: 13.70
Rated speed rpm	: 1160
Tolerance 1/min	: ± 5
rack travel mm	: 4.00
Rated speed rpm	: 1250
Tolerance 1/min	: ± 5
rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1350
rack travel mm	: 6.00
Rated speed rpm	: 1260

LOW IDLE

control lever	
position degree	: 71.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm	: 550
rack travel mm	: 6.60
Tolerance mm	: ± 0.10
Rated speed rpm	: 100
CRT mm min.	: > 19.00

TORQUE CONTROL

Rated speed rpm	: 1100
rack travel mm	: 14.70
Tolerance mm	: ± 0.05
Rated speed rpm	: 750
rack travel mm	: 15.40
Tolerance mm	: ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1300
rack travel mm : 15.40
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.00
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 900
rack travel mm : 14.60
Tolerance mm : \pm 0.20

Pressure hPa : 500
rack travel mm : 11.90
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1300
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 185.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 102.5
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 13.70
Rated speed rpm : 1160

Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 13.0

LOW IDLE

Rated speed rpm : 550
rack travel mm : 6.60
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.09.94
Test oil : ISO 4113

Combination No. : 0402746988

Injection pump
Pump designation : PES6P120A320LS7322
EP type number : 0412726904

Governor
Governor design. : RQV350...1150PA1140K
Governor no. : 0421815409

Cust. part No. : 1823136091

Customer-spec. information
Customer : NAVISTAR
Motor : DTA-466
Power KW : 139.5

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2417413076

Inlet press. bar : 2.8
Tolerance bar : + 0.1

Test nozzle holde
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 2.90
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 11.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 12.65
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 168.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 168.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 120.0
tolerance degree : + 6.0

rack travel mm : 11.60
Rated speed rpm : 1205
Tolerance 1/min : + 15

rack travel mm : 4.00
Rated speed rpm : 1350
Tolerance 1/min : + 5

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 75.0
tolerance degree : + 6.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.00
Tolerance mm : + 0.10

rack travel mm : 6.00
Rated speed rpm : 325

Rated speed rpm : 275

CRT mm min. : > 7.00

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 12.65
Tolerance mm : + 0.05

Rated speed rpm : 750
rack travel mm : 11.80
Tolerance mm : + 0.10

Rated speed rpm : 600
rack travel mm : 11.40
Tolerance mm : + 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1150
Pressure hPa : 1200
rack travel mm : 12.65
Tolerance mm : + 0.05

MEASUREMENT

Rated speed rpm : 1150

Pressure hPa : 650
rack travel mm : 12.00
Tolerance mm : + 0.20

Pressure hPa : 300
rack travel mm : 10.65
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 280
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 173.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1150
Del. quantity
cm³/1000 strokes : 110.5
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.60
Rated speed rpm : 1205
Tolerance 1/min : ± 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 1.00
Del. quantity
cm³/1000 strokes : 130.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 30.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.10.94
Test oil : ISO 4113

Combination No. : 0400075925

Injection pump
Pump designation : PES5M55C320RS201
EP type number : 0410055972

Governor
Governor design. : RSF350/2500M56-13
Governor no. : 0420021171

Cust. part No. :

Customer-spec. information
Customer : MB-PKW
Motor : OM605
Power KW : 83.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1469990351

Inlet press. bar : 1.0

Test nozzle holde
assembly : 1688901111

Opening pressure
bar : 148.5
Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

D01

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 1.75
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00
Tolerance mm : ± 1.00

Firing order : 1- 2- 4- 5- 3

Phasing : 0-72-144-216-288

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1
°NW after s.o.d. : 16.5
Tolerance : ± 0.20
Check
tolerance °NW : ± 0.30

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 12.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 37.0

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 1.5

<hr/>	
Spreed	
<hr/>	
Tolerance	
cm3/1000 strokes :	2.5
<hr/>	
Check tolerance	
cm3/1000S. :	3.0
<hr/>	
2nd speed rpm :	350
<hr/>	
Rack travel in mm :	7.40
Tolerance mm :	+ 0.10
Del. quantity	
cm3/1000 strokes :	8.5
Tolerance	
cm3/1000 strokes :	+ 0.5
Spreed	
Tolerance	
cm3/1000 strokes :	1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

IDLE STAGE

Rack travel in mm :	6.25
Tolerance mm :	+ 0.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1400
Ref. pressure	
ALDA / ADA hPa :	1100
Del. quantity	
cm3/1000 strokes :	37.0
Tolerance	
cm3/1000 strokes :	+ 0.5
Check tolerance	
cm3/1000S. :	+ 1.5
Spreed	
Tolerance	
cm3/1000 strokes :	2.5
Check tolerance	
cm3/1000S. :	3.0

RATED SPEED

control lever	
position degree :	50.0
<hr/>	
rack travel mm :	7.30
Rated speed rpm :	2700

rack travel mm :	0.50
Tolerance mm :	+ 0.50
Rated speed rpm :	3150

SET IDLE CONTROL LEVER POSITION

Rated speed rpm :	1400
<hr/>	
CRT mm max. :	1.95

LOW IDLE

Setting point w/out bumper spring	
Rated speed rpm :	350
rack travel mm :	7.40

SET IDLE AUXILIARY SPRING

Rated speed rpm :	475
rack travel mm :	5.40
Tolerance mm :	+ 0.10

rack travel mm :	3.00
Rated speed rpm :	700
Tolerance 1/min :	+ 50

Load pick-up

Rated speed rpm :	250
CRT mm min. :	> 10.00
Rated speed rpm :	1400
CRT mm max. :	1.95
rack travel mm :	7.40
Rated speed rpm :	350

TORQUE CONTROL

Rated speed rpm :	1400
rack travel mm :	12.75
Tolerance mm :	+ 0.05

Rated speed rpm :	2300
rack travel mm :	12.20
Tolerance mm :	+ 0.15

Rated speed rpm :	2500
rack travel mm :	11.80
Tolerance mm :	+ 0.15

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1400
Ref. pressure
ALDA / ADA hPa : 940
rack travel mm : -0.10
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 1400
Ref. pressure
ALDA / ADA hPa : 900
rack travel mm : -0.40
Tolerance mm : \pm 0.10

Rated speed rpm : 1400
Ref. pressure
ALDA / ADA hPa : 750
rack travel mm : -1.50
Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 2300
Del. quantity
cm³/1000 strokes : 39.3
Tolerance
cm³/1000 strokes : \pm 0.8
Check tolerance
cm³/1000S. : \pm 1.8
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 2500
Spreed
Del. quantity
cm³/1000 strokes : 37.5
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

HIGH IDLE

Rated speed rpm : 2700
rack travel mm : 7.30
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.10
Del. quantity
cm³/1000 strokes : 50.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 7.40
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 9.5
Check tolerance
cm³/1000S. : \pm 2.3
Spreed
Check tolerance
cm³/1000S. : 1.5

CHECKING THE IDLE-SPEED AUXILIARY

degree : $>$ 49.00
degree : $<$ 46.50

SETTING PNEUMATIC FAST IDLE (ELA) (PLA) POSITION

control lever
position degree : VWL
Rated speed rpm : 400
Rack travel in mm : 8.50

Tolerance mm : \pm 0.70
Vacuum hPa : 400.0
Vacuum hPa : 400

SETTING/TESTING ELECTRONIC IDLE
REGULATION (ELR)

control lever
position degree : 50.0

Adjustment of the control-rod travel
sensor

control lever
position degree : 50.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.10.94
Test oil : ISO 4113

Combination No. : 0400075926

Injection pump
Pump designation : PES5M55C320RS201
EP type number : 0410055972

Governor
Governor design. : RSF350/2500M75-3
Governor no. : 0420021173

Cust. part No. :

Customer-spec. information
Customer : MB-PKW
Motor : OM605
Power KW : 83.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1469990351

Inlet press. bar : 1.0

Test nozzle holde
assembly : 1688901111

Opening pressure
bar : 148.5
Tolerance bar : + 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

005

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 1.75
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 21.00
Tolerance mm : + 1.00

Firing order : 1- 2- 4- 5- 3

Phasing : 0-72-144-216-288

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1

°NW after s.o.d. : 16.5
Tolerance : + 0.20
Check
tolerance °NW : + 0.30

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 12.75
Tolerance mm : + 0.05

Del. quantity
cm3/1000 strokes : 37.0

Tolerance
cm3/1000 strokes : + 0.5

Check tolerance
cm3/1000S. : + 1.5

<hr/>	
Spreed	
<hr/>	
Tolerance	
cm3/1000 strokes :	2.5
<hr/>	
Check tolerance	
cm3/1000S. :	3.0
<hr/>	
2nd speed rpm :	350
<hr/>	
Rack travel in mm :	7.40
Tolerance mm :	+ 0.10
Del. quantity	
cm3/1000 strokes :	8.5
Tolerance	
cm3/1000 strokes :	+ 0.5
Spreed	
Tolerance	
cm3/1000 strokes :	1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

IDLE STAGE

Rack travel in mm :	6.25
Tolerance mm :	+ 0.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1400
Ref. pressure	
ALDA / ADA hPa :	1100
Del. quantity	
cm3/1000 strokes :	37.0
Tolerance	
cm3/1000 strokes :	+ 0.5
Check tolerance	
cm3/1000S. :	+ 1.5
Spreed	
Tolerance	
cm3/1000 strokes :	2.5
Check tolerance	
cm3/1000S. :	3.0

RATED SPEED

control lever	
position degree :	50.0
<hr/>	
rack travel mm :	7.30
Rated speed rpm :	2700

rack travel mm :	0.50
Tolerance mm :	+ 0.50
Rated speed rpm :	3150

SET IDLE CONTROL LEVER POSITION

Rated speed rpm :	1400
CRT mm max. :	1.95

LOW IDLE

Setting point w/out bumper spring	
Rated speed rpm :	350
rack travel mm :	7.40

SET IDLE AUXILIARY SPRING

Rated speed rpm :	475
rack travel mm :	5.40
Tolerance mm :	+ 0.10

rack travel mm :	3.00
Rated speed rpm :	700
Tolerance 1/min :	+ 50

Load pick-up

Rated speed rpm :	250
CRT mm min. :	> 10.00
Rated speed rpm :	1400
CRT mm max. :	1.95
rack travel mm :	7.40
Rated speed rpm :	350

TORQUE CONTROL

Rated speed rpm :	1400
rack travel mm :	12.75
Tolerance mm :	+ 0.05

Rated speed rpm :	2300
rack travel mm :	12.20
Tolerance mm :	+ 0.15

Rated speed rpm :	2500
rack travel mm :	11.80
Tolerance mm :	+ 0.15

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1400
Ref. pressure
ALDA / ADA hPa : 940
rack travel mm : -0.10
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 1400
Ref. pressure
ALDA / ADA hPa : 900
rack travel mm : -0.40
Tolerance mm : \pm 0.10

Rated speed rpm : 1400
Ref. pressure
ALDA / ADA hPa : 750
rack travel mm : -1.50
Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 2300
Del. quantity
cm³/1000 strokes : 39.3
Tolerance
cm³/1000 strokes : \pm 0.8
Check tolerance
cm³/1000S. : \pm 1.8
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 2500
Spreed
Del. quantity
cm³/1000 strokes : 37.5
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

HIGH IDLE

Rated speed rpm : 2700
rack travel mm : 7.30
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.10
Del. quantity
cm³/1000 strokes : 50.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 7.40
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 9.5
Check tolerance
cm³/1000S. : \pm 2.3
Spreed
Check tolerance
cm³/1000S. : 1.5

CHECKING THE IDLE-SPEED AUXILIARY

degree : > 49.00
degree : < 46.50

SETTING PNEUMATIC FAST IDLE (ELA) (PLA) POSITION

control lever
position degree : VWL
Rated speed rpm : 400
Rack travel in mm : 8.50

Tolerance mm : \pm 0.70
Vacuum hPa : 400.0
Vacuum hPa : 400

SETTING/TESTING ELECTRONIC IDLE
REGULATION (ELR)

control lever
position degree : 50.0

Adjustment of the control-rod travel
sensor

control lever
position degree : 50.0

ADJUST ACTIVE SURGE DAMPING ARD

Rated speed rpm : 1400
rack travel mm : 1.70
Tolerance mm : \pm 0.15

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.10.94
Test oil : ISO 4113
Combination No. : 0400075937
Injection pump
Pump designation : PES5M55C320RS158
EP type number : 0410055986
Governor
Governor design. : RSF340/2300M74
Governor no. : 0420021140

Cust. part No. :

Customer-spec. information
Customer : MB-PKW
Motor : OM602A-Abgasl.
Power KW : 92.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1469990351

Inlet press. bar : 1.0

Test nozzle holde
assembly : 1688901111

Opening pressure
bar : 148.5
Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 2.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00
Tolerance mm : ± 1.00

Firing order : 1- 2- 4- 5- 3

Phasing : 0-72-144-216-288

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1

°NW after s.o.d. : 19.5
Tolerance : ± 0.20
Check
tolerance °NW : ± 0.30

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 53.0

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 1.5

Spread

Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

2nd speed rpm : 345

Rack travel in mm : 5.40
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 6.5

Tolerance
cm³/1000 strokes : ± 0.5

Spread

Tolerance
cm³/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

IDLE STAGE

Rack travel in mm : 6.25
Tolerance mm : ± 0.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Ref. pressure

ALDA / ADA hPa : 1850

Del. quantity
cm³/1000 strokes : 53.0

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 1.5

Spread

Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

RATED SPEED

control lever
position degree : 50.0

rack travel mm : 8.30
Rated speed rpm : 2500

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 2950

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000

CRT mm max. : 1.75

LOW IDLE

control lever
position degree : 10.0
tolerance degree : ± 2.0

Setting point w/out bumper spring

Rated speed rpm : 345

rack travel mm : 5.40

SET IDLE AUXILIARY SPRING

Rated speed rpm : 380
rack travel mm : 4.30
Tolerance mm : ± 0.10

rack travel mm : 2.50
Rated speed rpm : 590
Tolerance 1/min : ± 50

Load pick-up

Rated speed rpm : 220

CRT mm min. : > 8.00

Rated speed rpm : 1000

CRT mm max. : 1.75

rack travel mm : 5.40
Rated speed rpm : 345

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 13.95

Tolerance mm : \pm 0.05
Rated speed rpm : 1600
rack travel mm : 13.20
Tolerance mm : \pm 0.10

Rated speed rpm : 2200
rack travel mm : 12.40
Tolerance mm : \pm 0.10

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 1600

MEASUREMENT

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 1100

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 750

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : 1850
Rated speed rpm : 1600
Del. quantity
cm³/1000 strokes : 51.8
Tolerance
cm³/1000 strokes : \pm 0.8
Check tolerance
cm³/1000S. : \pm 1.8

Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : 1850
Rated speed rpm : 2200
Spreed
Del. quantity
cm³/1000 strokes : 49.5
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 2.0
Spreed

Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 36.5
Tolerance
cm³/1000 strokes : \pm 0.5
Check tolerance
cm³/1000S. : \pm 1.5
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

HIGH IDLE

Rated speed rpm : 2500
rack travel mm : 8.30
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 31.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 3.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.10
Del. quantity
cm³/1000 strokes : 53.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 345

rack travel mm	:	5.40
Tolerance mm	:	+ 0.10
Del. quantity		
cm3/1000 strokes	:	7.3
Check tolerance		
cm3/1000S.	:	+ 2.3
Spread		
Check tolerance		
cm3/1000S.	:	1.5

CHECKING THE IDLE-SPEED AUXILIARY

degree	:	> 44.50
degree	:	< 42.00

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever		
position degree	:	10.0
tolerance degree	:	+ 2.0
Rated speed rpm	:	370
Tolerance		
cm3/1000 strokes	:	+ 4.0
Current A	:	1.80

control lever		
position degree	:	50.0
Rated speed rpm	:	2950

Rack travel in mm	:	0.50
Tolerance mm	:	+ 0.50

Current short-		
duration A	:	3.00

Starting test

Rated speed rpm	:	100
Current A	:	1.80

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Receiving inspection		
Rated speed rpm	:	1000
Ref. pressure		
ALDA / ADA hPa	:	1850
Set quantity with		
control lever		
cm3/1000 strokes	:	25.5

Tolerance		
cm3/1000 strokes	:	+ 0.5
Voltage Volt	:	1.636
Tolerance Volt	:	+ 0.003
Check tolerance		
Volt	:	+ 0.001

Adjustment of the control-rod travel sensor

control lever		
position degree	:	50.0
Rated speed rpm	:	1000
Ref. pressure		
ALDA / ADA hPa	:	1850
Rack travel in mm		
Voltage Volt	:	2.502
Tolerance Volt	:	+ 0.030
Check tolerance		
Volt	:	+ 0.060

ADJUST ACTIVE SURGE DAMPING ARD

Rated speed rpm	:	1000
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BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.10.94
Test oil : ISO 4113
Combination No. : 0400075942
Injection pump
Pump designation : PES5M55C320RS158-1
EP type number : 0410055979

Governor
Governor design. : RSF340/2300M73
Governor no. : 0420021129

Cust. part No. :

Customer-spec. information
Customer : MB-PKW
Motor : OM602A-ECE
Power KW : 92.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1469990351

Inlet press. bar : 1.0

Test nozzle holder
assembly : 1688901111

Opening pressure
bar : 148.5
Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 2.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00
Tolerance mm : ± 1.00

Firing order : 1- 2- 4- 5- 3

Phasing : 0-72-144-216-288

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1

°NW after s.o.d. : 19.5
Tolerance : ± 0.20
Check
tolerance °NW : ± 0.30

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 53.0

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 1.5

Spread

Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

2nd speed rpm : 345

Rack travel in mm : 5.30
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 6.5

Tolerance
cm³/1000 strokes : ± 0.5

Spread
Tolerance
cm³/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

IDLE STAGE

Rack travel in mm : 6.25
Tolerance mm : ± 0.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 1850
Del. quantity
cm³/1000 strokes : 53.0
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 1.5
Spread
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

RATED SPEED

control lever
position degree : 50.0

rack travel mm : 8.30
Rated speed rpm : 2500

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 2950

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000

CRT mm max. : 1.75

LOW IDLE

control lever
position degree : 10.0
tolerance degree : ± 2.0

Setting point w/out bumper spring
Rated speed rpm : 345
rack travel mm : 5.30

SET IDLE AUXILIARY SPRING

Rated speed rpm : 400
rack travel mm : 4.30
Tolerance mm : ± 0.10

rack travel mm : 2.50
Rated speed rpm : 610
Tolerance 1/min : ± 50

Load pick-up

Rated speed rpm : 220
CRT mm min. : > 8.00

Rated speed rpm : 1000
CRT mm max. : 1.75

rack travel mm : 5.30
Rated speed rpm : 345

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 13.95
Tolerance mm : ± 0.05

Rated speed rpm : 1600
 rack travel mm : 13.20
 Tolerance mm : \pm 0.10

Rated speed rpm : 2200
 rack travel mm : 12.40
 Tolerance mm : \pm 0.10

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000
 Ref. pressure
 ALDA / ADA hPa : 1600
 rack travel mm : -0.65
 Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 1000
 Ref. pressure
 ALDA / ADA hPa : 1100
 rack travel mm : -3.65
 Tolerance mm : \pm 0.10

Rated speed rpm : 1000
 Ref. pressure
 ALDA / ADA hPa : 750
 rack travel mm : -5.60
 Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
 ALDA / ADA hPa : 1850
 Rated speed rpm : 1600
 Del. quantity
 cm³/1000 strokes : 51.8
 Tolerance
 cm³/1000 strokes : \pm 0.8
 Check tolerance
 cm³/1000S. : \pm 1.8
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

Ref. pressure
 ALDA / ADA hPa : 1850
 Rated speed rpm : 2200
 Spreed
 Del. quantity
 cm³/1000 strokes : 49.5

Tolerance
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 2.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

Ref. pressure
 ALDA / ADA hPa : 1100
 Rated speed rpm : 1000
 Del. quantity
 cm³/1000 strokes : 36.5
 Tolerance
 cm³/1000 strokes : \pm 0.5
 Check tolerance
 cm³/1000S. : \pm 1.5
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

HIGH IDLE

Rated speed rpm : 2500
 rack travel mm : 8.30
 Tolerance mm : \pm 0.20
 Del. quantity
 cm³/1000 strokes : 31.0
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
 rack travel mm : 20.10
 Del. quantity
 cm³/1000 strokes : 53.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 345
rack travel mm : 5.30
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 7.8
Check tolerance
cm³/1000S. : \pm 2.3
Spreed
Check tolerance
cm³/1000S. : 1.5

CHECKING THE IDLE-SPEED AUXILIARY

degree : > 44.50
degree : < 42.00

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever
position degree : 10.0
tolerance degree : \pm 2.0
Rated speed rpm : 345

Rack travel in mm : 12.60
Tolerance mm : \pm 0.80
Del. quantity
cm³/1000 strokes : 43.0
Tolerance
cm³/1000 strokes : \pm 4.0

Current A : 1.80

control lever
position degree : 50.0
Rated speed rpm : 2950

Rack travel in mm : 0.50
Tolerance mm : \pm 0.50

Current short-
duration A : 3.00

Starting test

Rated speed rpm : 100
Current A : 1.80

Adjustment of the control-rod travel sensor

control lever
position degree : 50.0

ADJUST ACTIVE SURGE DAMPING ARD

Rated speed rpm : 1000

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.10.94
Test oil : ISO 4113

Combination No. : 0400076953

Injection pump
Pump designation : PES6M55C320RS203
EP type number : 0410056982

Governor
Governor design. : RSF315/2500M70-11
Governor no. : 0420021270

Cust. part No. :

Customer-spec. information

Customer : MB-PKW
Motor : OM606 USA
Power KW : 95.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1469990351

Inlet press. bar : 1.0

Test nozzle holde
assembly : 1688901111

Opening pressure
bar : 148.5
Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 1.75
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00
Tolerance mm : ± 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1

°NW after s.o.d. : 17.0
Tolerance : ± 0.20
Check
tolerance °NW : ± 0.30

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 38.0

Tolerance
cm³/1000 strokes : + 0.5

Check tolerance
cm³/1000S. : + 1.5

Speed

Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

2nd speed rpm : 290

Rack travel in mm : 7.30

Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 8.5

Tolerance
cm³/1000 strokes : + 0.5

Speed
Tolerance
cm³/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

IDLE STAGE

Rack travel in mm : 6.25
Tolerance mm : + 0.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Ref. pressure
ALDA / ADA hPa : 1100
Del. quantity
cm³/1000 strokes : 38.0
Tolerance
cm³/1000 strokes : + 0.5
Check tolerance
cm³/1000S. : + 1.5
Speed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

RATED SPEED

control lever
position degree : 50.0

rack travel mm : 7.90
Rated speed rpm : 2700

rack travel mm : 1.00
Tolerance mm : + 1.00
Rated speed rpm : 3000

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1100

CRT mm max. : 1.95

LOW IDLE

control lever
position degree : 10.5
tolerance degree : + 2.0

Setting point w/out bumper spring
Rated speed rpm : 290
rack travel mm : 7.30

SET IDLE AUXILIARY SPRING

Rated speed rpm : 400
rack travel mm : 6.00
Tolerance mm : + 0.10

rack travel mm : 3.00
Rated speed rpm : 675
Tolerance 1/min : + 50

Load pick-up

Rated speed rpm : 220

CRT mm min. : > 9.00

Rated speed rpm : 1100

CRT mm max. : 1.95

rack travel mm : 7.30
Rated speed rpm : 290

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.15
Tolerance mm : + 0.05

Rated speed rpm : 2000
rack travel mm : 12.40
Tolerance mm : \pm 0.15

Rated speed rpm : 2500
rack travel mm : 11.90
Tolerance mm : \pm 0.15

ADJUST NEGATIVE TORQUE CONTROLL

Rated speed rpm : 500
rack travel mm : 12.40
Tolerance mm : \pm 0.15

Rated speed rpm : 900
rack travel mm : 13.00
Tolerance mm : \pm 0.15

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1100
Ref. pressure
ALDA / ADA hPa : 940
rack travel mm : -0.10
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 1100
Ref. pressure
ALDA / ADA hPa : 900
rack travel mm : -0.40
Tolerance mm : \pm 0.10

Rated speed rpm : 1100
Ref. pressure
ALDA / ADA hPa : 750
rack travel mm : -1.50
Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 2000
Del. quantity
cm³/1000 strokes : 38.3
Tolerance
cm³/1000 strokes : \pm 0.8
Check tolerance
cm³/1000S. : \pm 1.8
Spreed

Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 2500
Spreed
Del. quantity
cm³/1000 strokes : 37.5
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

ADJUST NEGATIVE TORQUE CONTROLL

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 32.3
Tolerance
cm³/1000 strokes : \pm 0.8
Check tolerance
cm³/1000S. : \pm 1.8
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 36.3
Tolerance
cm³/1000 strokes : \pm 0.8
Check tolerance
cm³/1000S. : \pm 1.8
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

HIGH IDLE

Rated speed rpm : 2700
rack travel mm : 7.90

Tolerance mm	: +	0.10
Del. quantity		
cm3/1000 strokes	:	16.0
Tolerance		
cm3/1000 strokes	: +	2.0
Check tolerance		
cm3/1000S.	: +	3.0
Speed		
Tolerance		
cm3/1000 strokes	:	2.5
Check tolerance		
cm3/1000S.	:	3.0

STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	20.10
Del. quantity		
cm3/1000 strokes	:	52.0
Speed		
Tolerance		
cm3/1000 strokes	:	6.0
Check tolerance		
cm3/1000S.	:	6.0

LOW IDLE

Rated speed rpm	:	290
rack travel mm	:	7.30
Tolerance mm	: +	0.10
Del. quantity		
cm3/1000 strokes	:	9.5
Check tolerance		
cm3/1000S.	: +	2.5
Speed		
Check tolerance		
cm3/1000S.	:	1.5

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever		
position degree	:	10.5
tolerance degree	: +	2.0
Rated speed rpm	:	315
Rack travel in mm	:	13.10
Tolerance mm	: +	0.70
Del. quantity		
cm3/1000 strokes	:	34.0
Tolerance		
cm3/1000 strokes	: +	4.0

Current A	:	1.80
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control lever		
position degree	:	50.0
Rated speed rpm	:	3000

Rack travel in mm	:	1.00
Tolerance mm	: +	1.00

Current short-		
duration A	:	3.00

Starting test

Rated speed rpm	:	100
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Current A	:	1.80
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Adjustment of the control-rod travel sensor

control lever		
position degree	:	50.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.10.94
Test oil : ISO 4113
Combination No. : 0400076954
Injection pump
Pump designation : PES6M55C320RS203
EP type number : 0410056982
Governor
Governor design. : RSF315/2500M70-10
Governor no. : 0420021175

Cust. part No. :

Customer-spec. information
Customer : MB-FKW
Motor : OM606
Power KW : 100.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1469990351

Inlet press. bar : 1.0

Test nozzle holde
assembly : 1688901111

Opening pressure
bar : 148.5
Tolerance bar : + 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

D21

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 1.75
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 21.00
Tolerance mm : + 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1

*NW after s.o.d. : 16.5
Tolerance : + 0.20
Check
tolerance *NW : + 0.30

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.35
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 39.0

Tolerance
cm³/1000 strokes : + 0.5

Check tolerance
cm³/1000S. : + 1.5

Speed

Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

2nd speed rpm : 290

Rack travel in mm : 7.30

Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 8.5

Tolerance
cm³/1000 strokes : + 0.5

Speed

Tolerance
cm³/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

IDLE STAGE

Rack travel in mm : 6.25
Tolerance mm : + 0.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Ref. pressure
ALDA / ADA hPa : 1100
Del. quantity
cm³/1000 strokes : 39.0
Tolerance
cm³/1000 strokes : + 0.5
Check tolerance
cm³/1000S. : + 1.5
Speed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

RATED SPEED

control lever
position degree : 50.0

rack travel mm : 8.70
Rated speed rpm : 2700

rack travel mm : 1.00
Tolerance mm : + 1.00
Rated speed rpm : 3000

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1100

CRT mm max. : 1.95

LOW IDLE

control lever
position degree : 10.5
tolerance degree : + 2.0

Setting point w/out bumper spring
Rated speed rpm : 290
rack travel mm : 7.30

SET IDLE AUXILIARY SPRING

Rated speed rpm : 400
rack travel mm : 6.00
Tolerance mm : + 0.10

rack travel mm : 3.00
Rated speed rpm : 700
Tolerance 1/min : + 50

Load pick-up

Rated speed rpm : 220
CRT mm min. : > 8.50

Rated speed rpm : 1100
CRT mm max. : 1.95

rack travel mm : 7.30
Rated speed rpm : 290

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.35
Tolerance mm : + 0.05

Rated speed rpm : 2000
rack travel mm : 12.70
Tolerance mm : \pm 0.15

Rated speed rpm : 2500
rack travel mm : 12.10
Tolerance mm : \pm 0.15

ADJUST NEGATIVE TORQUE CONTROLL

Rated speed rpm : 500
rack travel mm : 12.50
Tolerance mm : \pm 0.15

Rated speed rpm : 900
rack travel mm : 13.10
Tolerance mm : \pm 0.15

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1100
Ref. pressure
ALDA / ADA hPa : 940
rack travel mm : -0.10
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 1100
Ref. pressure
ALDA / ADA hPa : 900
rack travel mm : -0.40
Tolerance mm : \pm 0.10

Rated speed rpm : 1100
Ref. pressure
ALDA / ADA hPa : 750
rack travel mm : -1.50
Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 2000
Del. quantity
cm³/1000 strokes : 40.3
Tolerance
cm³/1000 strokes : \pm 0.8
Check tolerance
cm³/1000S. : \pm 1.8
Spreed

Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 2500
Spreed
Del. quantity
cm³/1000 strokes : 39.5
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

ADJUST NEGATIVE TORQUE CONTROLL

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 33.3
Tolerance
cm³/1000 strokes : \pm 0.8
Check tolerance
cm³/1000S. : \pm 1.8
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 37.8
Tolerance
cm³/1000 strokes : \pm 0.8
Check tolerance
cm³/1000S. : \pm 1.8
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

HIGH IDLE

Rated speed rpm : 2700
rack travel mm : 8.70

Tolerance mm : \pm 0.20
 Del. quantity
 cm³/1000 strokes : 20.0
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
 rack travel mm : 20.10
 Del. quantity
 cm³/1000 strokes : 50.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 290
 rack travel mm : 7.30
 Tolerance mm : \pm 0.10
 Del. quantity
 cm³/1000 strokes : 9.5
 Check tolerance
 cm³/1000S. : \pm 2.3
 Spreed
 Check tolerance
 cm³/1000S. : 1.5

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever
 position degree : 10.5
 tolerance degree : \pm 2.0
 Rated speed rpm : 315
 Rack travel in mm : 13.10
 Tolerance mm : \pm 0.70
 Del. quantity
 cm³/1000 strokes : 34.0
 Tolerance
 cm³/1000 strokes : \pm 4.0

Current A : 1.80

control lever
 position degree : 50.0
 Rated speed rpm : 3000

Rack travel in mm : 1.00
 Tolerance mm : \pm 1.00

Current short-
duration A : 3.00

Starting test

Rated speed rpm : 100

Current A : 1.80

Adjustment of the control-rod travel
sensor

control lever
 position degree : 50.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.10.94
Test oil : ISO 4113
Combination No. : 0400076955
Injection pump
Pump designation : PES6M55C320RS203
EP type number : 0410056982
Governor
Governor design. : RSF315/2500M76
Governor no. : 0420021174

Cust. part No. :

Customer spec. information
Customer : MB-PKW
Motor : OM606
Power KW : 100.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1469990351

Inlet press. bar : 1.0

Test nozzle holde
assembly : 1688901111

Opening pressure
bar : 148.5
Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 1.75
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00
Tolerance mm : ± 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1

°NW after s.o.d. : 16.5
Tolerance : ± 0.20
Check
tolerance °NW : ± 0.30

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 39.0

Tolerance	
cm ³ /1000 strokes	: + 0.5
Check tolerance	
cm ³ /1000S.	: + 1.5
Speed	
Tolerance	
cm ³ /1000 strokes	: 2.5
Check tolerance	
cm ³ /1000S.	: 3.0
2nd speed rpm	: 300
Rack travel in mm	: 7.30
Tolerance mm	: + 0.10
Del. quantity	
cm ³ /1000 strokes	: 8.5
Tolerance	
cm ³ /1000 strokes	: + 0.5
Speed	
Tolerance	
cm ³ /1000 strokes	: 1.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

IDLE STAGE

Rack travel in mm	: 6.25
Tolerance mm	: + 0.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Ref. pressure	
ALDA / ADA hPa	: 1100
Del. quantity	
cm ³ /1000 strokes	: 39.0
Tolerance	
cm ³ /1000 strokes	: + 0.5
Check tolerance	
cm ³ /1000S.	: + 1.5
Speed	
Tolerance	
cm ³ /1000 strokes	: 2.5
Check tolerance	
cm ³ /1000S.	: 3.0

RATED SPEED

control lever	
position degree	: 50.0
rack travel mm	: 8.70
Rated speed rpm	: 2700
rack travel mm	: 1.00
Tolerance mm	: + 1.00
Rated speed rpm	: 3000

SET IDLE CONTROL LEVER POSITION

Rated speed rpm	: 1100
CRT mm max.	: 1.95

LOW IDLE

control lever	
position degree	: 10.5
tolerance degree	: + 2.0

Setting point w/out bumper spring	
Rated speed rpm	: 300
rack travel mm	: 7.30

SET IDLE AUXILIARY SPRING

Rated speed rpm	: 400
rack travel mm	: 6.00
Tolerance mm	: + 0.10

rack travel mm	: 3.00
Rated speed rpm	: 700
Tolerance 1/min	: + 50

Load pick-up

Rated speed rpm	: 220
CRT mm min.	: > 8.50

Rated speed rpm	: 1100
CRT mm max.	: 1.95

rack travel mm	: 7.30
Rated speed rpm	: 300

TORQUE CONTROL

Rated speed rpm	: 1100
rack travel mm	: 13.35
Tolerance mm	: + 0.05

Rated speed rpm : 2000
 rack travel mm : 12.70
 Tolerance mm : ± 0.15

Rated speed rpm : 2500
 rack travel mm : 12.10
 Tolerance mm : ± 0.15

ADJUST NEGATIVE TORQUE CONTROLL

Rated speed rpm : 500
 rack travel mm : 12.50
 Tolerance mm : ± 0.15

Rated speed rpm : 900
 rack travel mm : 13.10
 Tolerance mm : ± 0.15

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1100
 Ref. pressure
 ALDA / ADA hPa : 940
 rack travel mm : -0.10
 Tolerance mm : ± 0.10

MEASUREMENT

Rated speed rpm : 1100
 Ref. pressure
 ALDA / ADA hPa : 900
 rack travel mm : -0.40
 Tolerance mm : ± 0.10

Rated speed rpm : 1100
 Ref. pressure
 ALDA / ADA hPa : 750
 rack travel mm : -1.50
 Tolerance mm : ± 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
 ALDA / ADA hPa : 1100
 Rated speed rpm : 2000
 Del. quantity
 cm³/1000 strokes : 40.3
 Tolerance
 cm³/1000 strokes : ± 0.8
 Check tolerance
 cm³/1000S. : ± 1.8
 Spreed

Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

Ref. pressure
 ALDA / ADA hPa : 1100
 Rated speed rpm : 2500
 Spreed
 Del. quantity
 cm³/1000 strokes : 39.5
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 2.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

ADJUST NEGATIVE TORQUE CONTROLL

Ref. pressure
 ALDA / ADA hPa : 1100
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 33.3
 Tolerance
 cm³/1000 strokes : ± 0.8
 Check tolerance
 cm³/1000S. : ± 1.8
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

Ref. pressure
 ALDA / ADA hPa : 1100
 Rated speed rpm : 900
 Del. quantity
 cm³/1000 strokes : 37.8
 Tolerance
 cm³/1000 strokes : ± 0.8
 Check tolerance
 cm³/1000S. : ± 1.8
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

HIGH IDLE

Rated speed rpm : 2700
 rack travel mm : 8.70

Tolerance mm : \pm 0.20
 Del. quantity
 cm³/1000 strokes : 20.0
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
 rack travel mm : 20.10
 Del. quantity
 cm³/1000 strokes : 50.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 300
 rack travel mm : 7.30
 Tolerance mm : \pm 0.10
 Del. quantity
 cm³/1000 strokes : 9.5
 Check tolerance
 cm³/1000S. : \pm 2.3
 Spreed
 Check tolerance
 cm³/1000S. : 1.5

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever
 position degree : 10.5
 tolerance degree : \pm 2.0
 Rated speed rpm : 315

Rack travel in mm : 13.10
 Tolerance mm : \pm 0.70
 Del. quantity
 cm³/1000 strokes : 34.0
 Tolerance
 cm³/1000 strokes : \pm 4.0

Current A : 1.80

control lever
 position degree : 50.0
 Rated speed rpm : 3000

Rack travel in mm : 1.00
 Tolerance mm : \pm 1.00

Current short-
duration A : 3.00

Starting test

Rated speed rpm : 100

Current A : 1.80

Adjustment of the control-rod travel sensor

control lever
 position degree : 50.0

ADJUST ACTIVE SURGE DAMPING ARD

Rated speed rpm : 1100
 rack travel mm : 1.70
 Tolerance mm : \pm 0.20

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.10.94
Test oil : ISO 4113

Combination No. : 0400076959T8

Injection pump
Pump designation : PES6M55C320RS180
EP type number :

Governor
Governor design. : RSF315/2300M64-17
Governor no. :

Cust. part No. : T8

Customer-spec. information

Customer : MB-PKW
Motor : OM603A-D/A (KAT)
Power KW : 110.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1469990351

Inlet press. bar : 1.0

Test nozzle holde
assembly : 1688901111

Opening pressure
bar : 148.5
Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

E01

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 1.75
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00
Tolerance mm : ± 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1

°NW after s.o.d. : 17.0
Tolerance : ± 0.20
Check
tolerance °NW : ± 0.30

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.75
Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm ³ /1000 strokes :	52.5
<hr/>	
Tolerance	
cm ³ /1000 strokes :	± 0.5
<hr/>	
Check tolerance	
cm ³ /1000S. :	± 1.5
<hr/>	
Spreed	
<hr/>	
Tolerance	
cm ³ /1000 strokes :	2.5
<hr/>	
Check tolerance	
cm ³ /1000S. :	3.0
<hr/>	
2nd speed rpm :	290
<hr/>	
Rack travel in mm :	6.30
Tolerance mm :	± 0.10
<hr/>	
Del. quantity	
cm ³ /1000 strokes :	9.5
Tolerance	
cm ³ /1000 strokes :	± 0.5
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes :	1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

IDLE STAGE

Rack travel in mm :	6.50
Tolerance mm :	± 0.10

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1000
Ref. pressure	
ALDA / ADA hPa :	1850
Del. quantity	
cm ³ /1000 strokes :	52.5
Tolerance	
cm ³ /1000 strokes :	± 0.5
Check tolerance	
cm ³ /1000S. :	± 1.5
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes :	2.5
Check tolerance	
cm ³ /1000S. :	3.0

RATED SPEED

control lever	
position degree :	50.0
<hr/>	
rack travel mm :	8.70
Rated speed rpm :	2500
<hr/>	
rack travel mm :	0.50
Tolerance mm :	± 0.50
Rated speed rpm :	3000

SET IDLE CONTROL LEVER POSITION

Rated speed rpm :	1000
<hr/>	
CRT mm max. :	1.75

LOW IDLE

control lever	
position degree :	10.0
tolerance degree :	± 2.0

Setting point w/out bumper spring	
Rated speed rpm :	290
rack travel mm :	6.30

SET IDLE AUXILIARY SPRING

Rated speed rpm :	400
rack travel mm :	4.80
Tolerance mm :	± 0.10
<hr/>	
rack travel mm :	2.50
Rated speed rpm :	630
Tolerance 1/min :	± 50

Load pick-up

Rated speed rpm :	200
CRT mm min. :	> 7.00
<hr/>	
Rated speed rpm :	1000
CRT mm max. :	1.75
<hr/>	
rack travel mm :	6.30
Rated speed rpm :	290

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 13.75
Tolerance mm : \pm 0.05

Rated speed rpm : 1600
rack travel mm : 13.20
Tolerance mm : \pm 0.10

Rated speed rpm : 2200
rack travel mm : 12.40
Tolerance mm : \pm 0.10

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 1600
rack travel mm : -0.50
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 1100
rack travel mm : -3.15
Tolerance mm : \pm 0.10

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 750
rack travel mm : -5.00
Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : 1850
Rated speed rpm : 1600
Del. quantity
cm³/1000 strokes : 51.0
Tolerance
cm³/1000 strokes : \pm 0.8
Check tolerance
cm³/1000S. : \pm 1.8
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : 1850

E03

Rated speed rpm : 2200
Spreed
Del. quantity
cm³/1000 strokes : 50.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 36.5
Tolerance
cm³/1000 strokes : \pm 0.5
Check tolerance
cm³/1000S. : \pm 1.5
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

HIGH IDLE

Rated speed rpm : 2500
rack travel mm : 8.70
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 32.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 3.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.10
Del. quantity
cm³/1000 strokes : 52.0
Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm3/1000S. : 6.0

LOW IDLE

Rated speed rpm : 290
rack travel mm : 6.30
Tolerance mm : \pm 0.10
Check tolerance
cm3/1000S. : \pm 2.3
Speed
Check tolerance
cm3/1000S. : 1.5

CHECKING THE IDLE-SPEED AUXILIARY

degree : $>$ 37.00
degree : $<$ 34.50

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever
position degree : 10.0
tolerance degree : \pm 2.0
Rated speed rpm : 250

Rack travel in mm : 13.80
Tolerance mm : \pm 0.70
Del. quantity
cm3/1000 strokes : 48.5
Tolerance
cm3/1000 strokes : \pm 4.0

Current A : 1.80

control lever
position degree : 50.0
Rated speed rpm : 2950

Rack travel in mm : 0.50
Tolerance mm : \pm 0.50

Current short-
duration A : 3.00

Starting test

Rated speed rpm : 100
Current A : 1.80

E04

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Receiving inspection
Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 1850
Set quantity with
control lever
cm3/1000 strokes : 22.2
Tolerance
cm3/1000 strokes : \pm 0.5
Voltage Volt : 1.636
Tolerance Volt : \pm 0.003
Check tolerance
Volt : \pm 0.001

Adjustment of the control-rod travel sensor

control lever
position degree : 50.0
Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 1850
Rack travel in mm
Voltage Volt : 2.487
Tolerance Volt : \pm 0.030
Check tolerance
Volt : \pm 0.060

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.10.94
Test oil : ISO 4113
Combination No. : 0400076960T8
Injection pump
Pump designation : PES6M55C320RS179
EP type number :
Governor
Governor design. : RSF315/2000M65-6
Governor no. :

Cust. part No. : T8

Customer spec. information
Customer : MB-PKW
Motor : OM603A D35 GW
Power KW : 100.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1469990351

Inlet press. bar : 1.0

Test nozzle holder
assembly : 1688901111

Opening pressure
bar : 148.5
Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

E05

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 1.75
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00
Tolerance mm : ± 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1

°NW after s.o.d. : 17.0
Tolerance : ± 0.20
Check
tolerance °NW : ± 0.30

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.65
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 58.5

<hr/>	
Tolerance	
cm3/1000 strokes	: + 0.5
<hr/>	
Check tolerance	
cm3/1000S.	: + 1.5
<hr/>	
Spreed	
<hr/>	
Tolerance	
cm3/1000 strokes	: 2.5
<hr/>	
Check tolerance	
cm3/1000S.	: 3.0
<hr/>	
2nd speed rpm	: 290
<hr/>	
Rack travel in mm	: 6.30
Tolerance mm	: + 0.10
Del. quantity	
cm3/1000 strokes	: 10.0
Tolerance	
cm3/1000 strokes	: + 0.5
Spreed	
Tolerance	
cm3/1000 strokes	: 1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

IDLE STAGE

Rack travel in mm	: 5.50
Tolerance mm	: + 0.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1000
Ref. pressure	
ALDA / ADA hPa	: 1900
Del. quantity	
cm3/1000 strokes	: 58.5
Tolerance	
cm3/1000 strokes	: + 0.5
Check tolerance	
cm3/1000S.	: + 1.5
Spreed	
Tolerance	
cm3/1000 strokes	: 2.5
Check tolerance	
cm3/1000S.	: 3.0

RATED SPEED

control lever	
position degree	: 50.0
<hr/>	
rack travel mm	: 6.50
Rated speed rpm	: 2350
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 2700

SET IDLE CONTROL LEVER POSITION

Rated speed rpm	: 1000
<hr/>	
CRT mm max.	: 1.95

LOW IDLE

control lever	
position degree	: 10.0
tolerance degree	: + 2.0

Setting point w/out bumper spring	
Rated speed rpm	: 290
rack travel mm	: 6.30

SET IDLE AUXILIARY SPRING

Rated speed rpm	: 400
rack travel mm	: 4.80
Tolerance mm	: + 0.10

Load pick-up

Rated speed rpm	: 200
CRT mm min.	: > 7.50
<hr/>	
Rated speed rpm	: 1000
CRT mm max.	: 1.95
rack travel mm	: 6.30
Rated speed rpm	: 290

TORQUE CONTROL

Rated speed rpm	: 1000
rack travel mm	: 13.65
Tolerance mm	: + 0.05
<hr/>	
Rated speed rpm	: 1600
rack travel mm	: 12.85
Tolerance mm	: + 0.10

Rated speed rpm : 2000
 rack travel mm : 11.70
 Tolerance mm : \pm 0.10

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000
 Ref. pressure
 ALDA / ADA hPa : 1600
 rack travel mm : -0.40
 Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 1000
 Ref. pressure
 ALDA / ADA hPa : 1100
 rack travel mm : -2.95
 Tolerance mm : \pm 0.10

Rated speed rpm : 1000
 Ref. pressure
 ALDA / ADA hPa : 750
 rack travel mm : -4.80
 Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
 ALDA / ADA hPa : 1900
 Rated speed rpm : 1600
 Del. quantity
 cm³/1000 strokes : 55.8
 Tolerance
 cm³/1000 strokes : \pm 0.8
 Check tolerance
 cm³/1000S. : \pm 1.8
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

Ref. pressure
 ALDA / ADA hPa : 1900
 Rated speed rpm : 2000
 Spreed
 Del. quantity
 cm³/1000 strokes : 51.0
 Tolerance
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 2.0

E07

Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

Ref. pressure
 ALDA / ADA hPa : 1100
 Rated speed rpm : 1000
 Del. quantity
 cm³/1000 strokes : 41.5
 Tolerance
 cm³/1000 strokes : \pm 0.5
 Check tolerance
 cm³/1000S. : \pm 1.5
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

HIGH IDLE

Rated speed rpm : 2350
 rack travel mm : 6.50
 Tolerance mm : \pm 0.20
 Del. quantity
 cm³/1000 strokes : 22.0
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
 rack travel mm : 20.10
 Del. quantity
 cm³/1000 strokes : 52.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 290
rack travel mm : 6.30
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 11.8
Check tolerance
cm³/1000S. : \pm 2.3
Spreed
Check tolerance
cm³/1000S. : 1.5

CHECKING THE IDLE-SPEED AUXILIARY

degree : > 37.00
degree : < 35.50

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever
position degree : 10.0
tolerance degree : \pm 2.0
Rated speed rpm : 315

Rack travel in mm : 12.50
Tolerance mm : \pm 0.70
Del. quantity
cm³/1000 strokes : 48.0
Del. quantity
cm³/1000 strokes : 48.0
Tolerance
cm³/1000 strokes : \pm 4.0
Tolerance
cm³/1000 strokes : \pm 4.0

Current A : 1.80

control lever
position degree : 50.0
Rated speed rpm : 2700

Rack travel in mm : 0.50
Tolerance mm : \pm 0.50

Current short-
duration A : 3.00

Starting test

Rated speed rpm : 100
Current A : 1.80

Adjustment of the control-rod travel
sensor

control lever
position degree : 50.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.10.94
Test oil : ISO 4113
Combination No. : 0400076961T8
Injection pump
Pump designation : PES6M55C320RS157-1
EP type number :
Governor
Governor design. : RSF315/2300M65-5
Governor no. :

Cust. part No. : T8

Customer-spec. information

Customer : MB-PKW
Motor : OM603A-ECE
Power KW : 110.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1469990351

Inlet press. bar : 1.0

Test nozzle holde
assembly : 1688901111

Opening pressure
bar : 148.5
Tolerance bar : + 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

E09

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 2.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 21.00
Tolerance mm : + 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1
°NW after s.o.d. : 19.5
Tolerance : + 0.20
Check
tolerance °NW : + 0.30

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.95
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 53.0

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 1.5

Speed

Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

2nd speed rpm : 290

Rack travel in mm : 5.40
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 7.0

Tolerance
cm³/1000 strokes : ± 0.5

Speed

Tolerance
cm³/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

IDLE STAGE

Rack travel in mm : 6.50
Tolerance mm : ± 0.10

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Ref. pressure

ALDA / ADA hPa : 1850

Del. quantity
cm³/1000 strokes : 53.0

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 1.5

Speed

Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

RATED SPEED

control lever
position degree : 50.0

rack travel mm : 8.30
Rated speed rpm : 2500

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 2950

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000

CRT mm max. : 1.75

LOW IDLE

control lever
position degree : 10.0
tolerance degree : ± 2.0

Setting point w/out bumper spring

Rated speed rpm : 290

rack travel mm : 5.40

SET IDLE AUXILIARY SPRING

Rated speed rpm : 360
rack travel mm : 4.30
Tolerance mm : ± 0.10

rack travel mm : 2.50
Rated speed rpm : 560
Tolerance 1/min : ± 50

Load pick-up

Rated speed rpm : 200

CRT mm min. : > 7.00

Rated speed rpm : 1000

CRT mm max. : 1.75

rack travel mm : 5.40
Rated speed rpm : 290

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 13.95

Tolerance mm : \pm 0.05

Rated speed rpm : 1600

rack travel mm : 13.20

Tolerance mm : \pm 0.10

Rated speed rpm : 2200

rack travel mm : 12.40

Tolerance mm : \pm 0.10

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000

Ref. pressure

ALDA / ADA hPa : 1600

MEASUREMENT

Rated speed rpm : 1000

Ref. pressure

ALDA / ADA hPa : 1100

Rated speed rpm : 1000

Ref. pressure

ALDA / ADA hPa : 750

FUEL DELIVERY CHARACTERISTICS

Ref. pressure

ALDA / ADA hPa : 1850

Rated speed rpm : 1600

Del. quantity

cm³/1000 strokes : 51.8

Tolerance

cm³/1000 strokes : \pm 0.8

Check tolerance

cm³/1000S. : \pm 1.8

Speed

Tolerance

cm³/1000 strokes : 2.5

Check tolerance

cm³/1000S. : 3.0

Ref. pressure

ALDA / ADA hPa : 1850

Rated speed rpm : 2200

Speed

Del. quantity

cm³/1000 strokes : 49.5

Tolerance

cm³/1000 strokes : \pm 1.0

Check tolerance

cm³/1000S. : \pm 2.0

Speed

Tolerance

cm³/1000 strokes : 2.5

Check tolerance

cm³/1000S. : 3.0

Ref. pressure

ALDA / ADA hPa : 1100

Rated speed rpm : 1000

Del. quantity

cm³/1000 strokes : 36.5

Tolerance

cm³/1000 strokes : \pm 0.5

Check tolerance

cm³/1000S. : \pm 1.5

Speed

Tolerance

cm³/1000 strokes : 2.5

Check tolerance

cm³/1000S. : 3.0

HIGH IDLE

Rated speed rpm : 2500

rack travel mm : 8.30

Tolerance mm : \pm 0.20

Del. quantity

cm³/1000 strokes : 32.0

Tolerance

cm³/1000 strokes : \pm 2.0

Check tolerance

cm³/1000S. : \pm 3.0

Speed

Tolerance

cm³/1000 strokes : 2.5

Check tolerance

cm³/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

rack travel mm : 20.10

Del. quantity

cm³/1000 strokes : 52.0

Speed

Tolerance

cm³/1000 strokes : 6.0

Check tolerance

cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 290

rack travel mm : 5.40
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 8.6
Check tolerance
cm³/1000S. : \pm 2.3
Spreed
Check tolerance
cm³/1000S. : 1.5

CHECKING THE IDLE-SPEED AUXILIARY

degree : > 35.50
degree : < 33.00

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever
position degree : 10.0
tolerance degree : \pm 2.0
Rated speed rpm : 315
Tolerance
cm³/1000 strokes : \pm 4.0
Current A : 1.80

control lever
position degree : 50.0
Rated speed rpm : 2950

Rack travel in mm : 0.50
Tolerance mm : \pm 0.50

Current short-
duration A : 3.00

Starting test

Rated speed rpm : 100
Current A : 1.80

Adjustment of the control-rod travel sensor

control lever
position degree : 50.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.10.94

Test oil : ISO 4113

Combination No. : 0400076962T8

Injection pump

Pump designation : PES6M55C320RS157

EP type number :

Governor

Governer design. : RSF315/2300M64-15

Governer no. :

Cust. part No. : T8

Customer-spec. information

Customer : MB-PKW

Motor : OM603A-Abgasl.

Power KW : 110.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1469990351

Inlet press. bar : 1.0

Test nozzle holde
assembly

: 1688901111

Opening pressure
bar

: 148.5

Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

E13

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0

Tolerance bar : ± 1.0

Prestroke mm : 2.25

Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00

Tolerance mm : ± 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking

Barrel no. : 1

°NW after s.o.d. : 19.5

Tolerance : ± 0.20

Check

tolerance °NW : ± 0.30

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.95

Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm ³ /1000 strokes :	53.0
<hr/>	
Tolerance	
cm ³ /1000 strokes :	+ 0.5
<hr/>	
Check tolerance	
cm ³ /1000S. :	+ 1.5
<hr/>	
Spreed	
<hr/>	
Tolerance	
cm ³ /1000 strokes :	2.5
<hr/>	
Check tolerance	
cm ³ /1000S. :	3.0
<hr/>	
2nd speed rpm :	290
<hr/>	
Rack travel in mm :	5.40
Tolerance mm :	+ 0.10
Del. quantity	
cm ³ /1000 strokes :	7.0
Tolerance	
cm ³ /1000 strokes :	+ 0.5
Spreed	
Tolerance	
cm ³ /1000 strokes :	1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

IDLE STAGE

Rack travel in mm :	6.50
Tolerance mm :	+ 0.10

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1000
Ref. pressure	
ALDA / ADA hPa :	1850
Del. quantity	
cm ³ /1000 strokes :	53.0
Tolerance	
cm ³ /1000 strokes :	+ 0.5
Check tolerance	
cm ³ /1000S. :	+ 1.5
Spreed	
Tolerance	
cm ³ /1000 strokes :	2.5
Check tolerance	
cm ³ /1000S. :	3.0

RATED SPEED

control lever	
position degree :	50.0
rack travel mm :	8.30
Rated speed rpm :	2500
rack travel mm :	0.50
Tolerance mm :	+ 0.50
Rated speed rpm :	2950

SET IDLE CONTROL LEVER POSITION

Rated speed rpm :	1000
CRT mm max. :	1.75

LOW IDLE

control lever	
position degree :	10.0
tolerance degree :	+ 2.0

Setting point w/out bumper spring
Rated speed rpm : 290
rack travel mm : 5.40

SET IDLE AUXILIARY SPRING

Rated speed rpm :	360
rack travel mm :	4.30
Tolerance mm :	+ 0.10
rack travel mm :	2.50
Rated speed rpm :	560
Tolerance 1/min :	+ 50

Load pick-up

Rated speed rpm :	200
CRT mm min. :	> 7.00
Rated speed rpm :	1000
CRT mm max. :	1.75
rack travel mm :	5.40
Rated speed rpm :	290

TORQUE CONTROL

Rated speed rpm : 1000
 rack travel mm : 13.95
 Tolerance mm : \pm 0.05

Rated speed rpm : 1600
 rack travel mm : 13.20
 Tolerance mm : \pm 0.10

Rated speed rpm : 2200
 rack travel mm : 12.40
 Tolerance mm : \pm 0.10

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000
 Ref. pressure
 ALDA / ADA hPa : 1600

MEASUREMENT

Rated speed rpm : 1000
 Ref. pressure
 ALDA / ADA hPa : 1100

Rated speed rpm : 1000
 Ref. pressure
 ALDA / ADA hPa : 750

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
 ALDA / ADA hPa : 1850
 Rated speed rpm : 1600
 Del. quantity
 cm³/1000 strokes : 51.8
 Tolerance
 cm³/1000 strokes : \pm 0.8
 Check tolerance
 cm³/1000S. : \pm 1.8
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

Ref. pressure
 ALDA / ADA hPa : 1850
 Rated speed rpm : 2200
 Spreed
 Del. quantity
 cm³/1000 strokes : 49.5
 Tolerance
 cm³/1000 strokes : \pm 1.0

Check tolerance
 cm³/1000S. : \pm 2.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

Ref. pressure
 ALDA / ADA hPa : 1100
 Rated speed rpm : 1000
 Del. quantity
 cm³/1000 strokes : 36.5
 Tolerance
 cm³/1000 strokes : \pm 0.5
 Check tolerance
 cm³/1000S. : \pm 1.5
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

HIGH IDLE

Rated speed rpm : 2500
 rack travel mm : 8.30
 Tolerance mm : \pm 0.20
 Del. quantity
 cm³/1000 strokes : 32.0
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
 rack travel mm : 20.10
 Del. quantity
 cm³/1000 strokes : 52.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 290
rack travel mm : 5.40
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 8.3
Check tolerance
cm³/1000s. : \pm 2.3
Spreed
Check tolerance
cm³/1000s. : 1.5

CHECKING THE IDLE-SPEED AUXILIARY

degree : > 35.50
degree : < 33.00

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever
position degree : 10.0
tolerance degree : \pm 2.0
Rated speed rpm : 315
Tolerance
cm³/1000 strokes : \pm 4.0
Current A : 1.80

control lever
position degree : 50.0
Rated speed rpm : 2950
Rack travel in mm : 0.50
Tolerance mm : \pm 0.50

Current short-
duration A : 3.00

Starting test

Rated speed rpm : 100
Current A : 1.80

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Receiving inspection
Rated speed rpm : 1000

Ref. pressure
ALDA / ADA hPa : 1850
Set quantity with
control lever
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : \pm 0.5
Voltage Volt : 1.636
Tolerance Volt : \pm 0.003
Check tolerance
Volt : \pm 0.001

Adjustment of the control-rod travel sensor

control lever
position degree : 50.0
Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 1850
Rack travel in mm
Voltage Volt : 2.502
Tolerance Volt : \pm 0.030
Check tolerance
Volt : \pm 0.060

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.10.94

Test oil : ISO 4113

Combination No. : 0400076963T8

Injection pump

Pump designation : PES6M55C32ORS157-1

EP type number :

Governor

Governer design. : RSF450/2300M68-1

Governer no. :

Cust. part No. : T8

Customer-spec. information

Customer : MB-NFZ

Motor : OM603A (3.0L)

Power KW : 100.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40

Tolerance °C : + 2.0

Overflow valve : 1469990351

Inlet press. bar : 1.0

Test nozzle holde
assembly

: 1688901111

Opening pressure

bar : 148.5

Tolerance bar : + 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

E17

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0

Tolerance bar : + 1.0

Prestroke mm : 2.25

Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 21.00

Tolerance mm : + 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking

Barrel no. : 1

°NW after s.o.d. : 19.5

Tolerance : + 0.20

Check
tolerance °NW : + 0.30

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.15

Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 48.5

Tolerance	
cm3/1000 strokes	: + 0.5
Check tolerance	
cm3/1000S.	: + 1.5
Speed	
Tolerance	
cm3/1000 strokes	: 2.5
Check tolerance	
cm3/1000S.	: 3.0
2nd speed rpm	: 450
Rack travel in mm	: 5.50
Tolerance mm	: + 0.10
Del. quantity	
cm3/1000 strokes	: 7.0
Tolerance	
cm3/1000 strokes	: + 0.5
Speed	
Tolerance	
cm3/1000 strokes	: 1.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

IDLE STAGE

Rack travel in mm	: 6.50
Tolerance mm	: + 0.10

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1000
Ref. pressure	
ALDA / ADA hPa	: 1850
Del. quantity	
cm3/1000 strokes	: 48.5
Tolerance	
cm3/1000 strokes	: + 0.5
Check tolerance	
cm3/1000S.	: + 1.5
Speed	
Tolerance	
cm3/1000 strokes	: 2.5
Check tolerance	
cm3/1000S.	: 3.0

RATED SPEED

control lever	
position degree	: 50.0
rack travel mm	: 8.60
Rated speed rpm	: 2500
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 2950

SET IDLE CONTROL LEVER POSITION

Rated speed rpm	: 1000
CRT mm max.	: 1.95

LOW IDLE

control lever	
position degree	: 12.0
tolerance degree	: + 2.0

Setting point w/out bumper spring	
Rated speed rpm	: 450
rack travel mm	: 5.50

SET IDLE AUXILIARY SPRING

Rated speed rpm	: 500
rack travel mm	: 4.40
Tolerance mm	: + 0.10
rack travel mm	: 2.50
Rated speed rpm	: 670
Tolerance 1/min	: + 50

Load pick-up

Rated speed rpm	: 250
CRT mm min.	: > 12.50
Rated speed rpm	: 1000
CRT mm max.	: 1.95
rack travel mm	: 5.50
Rated speed rpm	: 450

TORQUE CONTROL

Rated speed rpm	: 1000
rack travel mm	: 13.15
Tolerance mm	: + 0.05

Rated speed rpm : 1600
 rack travel mm : 12.50
 Tolerance mm : \pm 0.10

Rated speed rpm : 2200
 rack travel mm : 11.60
 Tolerance mm : \pm 0.10

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000
 Ref. pressure
 ALDA / ADA hPa : 1500
 rack travel mm : -0.12
 Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 1000
 Ref. pressure
 ALDA / ADA hPa : 1100
 rack travel mm : -2.45
 Tolerance mm : \pm 0.10

Rated speed rpm : 1000
 Ref. pressure
 ALDA / ADA hPa : 750
 rack travel mm : -4.60
 Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
 ALDA / ADA hPa : 1850
 Rated speed rpm : 1600
 Del. quantity
 cm³/1000 strokes : 47.3
 Tolerance
 cm³/1000 strokes : \pm 0.8
 Check tolerance
 cm³/1000S. : \pm 1.8
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

Ref. pressure
 ALDA / ADA hPa : 1850
 Rated speed rpm : 2200
 Spreed
 Del. quantity
 cm³/1000 strokes : 45.0

Tolerance
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 2.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

Ref. pressure
 ALDA / ADA hPa : 1100
 Rated speed rpm : 1000
 Del. quantity
 cm³/1000 strokes : 37.0
 Tolerance
 cm³/1000 strokes : \pm 0.5
 Check tolerance
 cm³/1000S. : \pm 1.5
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

HIGH IDLE

Rated speed rpm : 2500
 rack travel mm : 8.60
 Tolerance mm : \pm 0.20
 Del. quantity
 cm³/1000 strokes : 32.0
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
 rack travel mm : 20.10
 Del. quantity
 cm³/1000 strokes : 52.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 450
rack travel mm : 5.50
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 8.3
Check tolerance
cm³/1000S. : \pm 2.3
Spreed
Check tolerance
cm³/1000S. : 1.5

CHECKING THE IDLE-SPEED AUXILIARY

degree : > 35.50
degree : < 33.00

SETTING PNEUMATIC FAST IDLE (ELA) (PLA) POSITION

control lever
position degree : VWL
Rated speed rpm : 500

Rack travel in mm : 7.60
Tolerance mm : \pm 0.80
Vacuum hPa : 600.0
Vacuum hPa : -

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever
position degree : 12.0
tolerance degree : \pm 2.0

control lever
position degree : 50.0

Adjustment of the control-rod travel
sensor

control lever
position degree : 50.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.10.94
Test oil : ISO 4113
Combination No. : 0400076964T8
Injection pump
Pump designation : PES6M55C320RS171
EP type number :
Governor
Governor design. : RSF315/2300M72-4
Governor no. :

Cust. part No. : T8

Customer spec. information
Customer : MB-PKW
Motor : OM603-ECE MJ90
Power KW : 80.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1469990351

Inlet press. bar : 1.0

Test nozzle holder
assembly : 1688901111

Opening pressure
bar : 148.5
Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 2.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00
Tolerance mm : ± 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1

°NW after s.o.d. : 19.5
Tolerance : ± 0.20
Check
tolerance °NW : ± 0.30

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 32.5

Tolerance	
cm3/1000 strokes	: + 0.5
Check tolerance	
cm3/1000S.	: + 1.5
Speed	
Tolerance	
cm3/1000 strokes	: 2.5
Check tolerance	
cm3/1000S.	: 3.0
2nd speed rpm	: 300
Rack travel in mm	: 6.90
Tolerance mm	: + 0.10
Del. quantity	
cm3/1000 strokes	: 8.0
Tolerance	
cm3/1000 strokes	: + 0.5
Speed	
Tolerance	
cm3/1000 strokes	: 1.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

IDLE STAGE

Rack travel in mm	: 6.50
Tolerance mm	: + 0.10

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1000
Ref. pressure	
ALDA / ADA hPa	: 1100
Del. quantity	
cm3/1000 strokes	: 32.5
Tolerance	
cm3/1000 strokes	: + 0.5
Check tolerance	
cm3/1000S.	: + 1.5
Speed	
Tolerance	
cm3/1000 strokes	: 2.5
Check tolerance	
cm3/1000S.	: 3.0

RATED SPEED

control lever	
position degree	: 50.0
rack travel mm	: 8.70
Rated speed rpm	: 2500
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 2950

SET IDLE CONTROL LEVER POSITION

Rated speed rpm	: 1000
CRT mm max.	: 1.25

LOW IDLE

control lever	
position degree	: 14.0
tolerance degree	: + 2.0

Setting point w/out bumper spring	
Rated speed rpm	: 300
rack travel mm	: 6.90

SET IDLE AUXILIARY SPRING

Rated speed rpm	: 360
rack travel mm	: 5.40
Tolerance mm	: + 0.10
rack travel mm	: 2.00
Rated speed rpm	: 710
Tolerance 1/min	: + 50

Load pick-up

Rated speed rpm	: 220
CRT mm min.	: > 8.50
Rated speed rpm	: 1000
CRT mm max.	: 1.25
rack travel mm	: 6.90
Rated speed rpm	: 300

TORQUE CONTROL

Rated speed rpm	: 1000
rack travel mm	: 12.05
Tolerance mm	: + 0.05

Rated speed rpm : 1400
 rack travel mm : 11.80
 Tolerance mm : \pm 0.10

Rated speed rpm : 2200
 rack travel mm : 11.50
 Tolerance mm : \pm 0.10

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000
 Ref. pressure
 ALDA / ADA hPa : 950
 rack travel mm : -0.10
 Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 1000
 Ref. pressure
 ALDA / ADA hPa : 900
 rack travel mm : -0.60
 Tolerance mm : \pm 0.10

Rated speed rpm : 1000
 Ref. pressure
 ALDA / ADA hPa : 750
 rack travel mm : -2.00
 Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
 ALDA / ADA hPa : 1100
 Rated speed rpm : 1400
 Del. quantity
 cm³/1000 strokes : 32.8
 Tolerance
 cm³/1000 strokes : \pm 0.8
 Check tolerance
 cm³/1000S. : \pm 1.8
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

Ref. pressure
 ALDA / ADA hPa : 1100
 Rated speed rpm : 2200
 Spreed
 Del. quantity
 cm³/1000 strokes : 35.0

Tolerance
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 2.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

HIGH IDLE

Rated speed rpm : 2500
 rack travel mm : 8.70
 Tolerance mm : \pm 0.20
 Del. quantity
 cm³/1000 strokes : 24.0
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
 rack travel mm : 20.10
 Del. quantity
 cm³/1000 strokes : 52.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 300
 rack travel mm : 6.90
 Tolerance mm : \pm 0.10
 Del. quantity
 cm³/1000 strokes : 9.3
 Check tolerance
 cm³/1000S. : \pm 2.3
 Spreed
 Check tolerance
 cm³/1000S. : 1.5

CHECKING THE IDLE-SPEED AUXILIARY

degree : > 49.00

degree : < 46.50

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever
position degree : 14.0
tolerance degree : \pm 2.0
Rated speed rpm : 315

Rack travel in mm : 13.00
Tolerance mm : \pm 0.70
Del. quantity
cm³/1000 strokes : 32.0
Tolerance
cm³/1000 strokes : \pm 4.0

Current A : 1.80

control lever
position degree : 50.0
Rated speed rpm : 2950

Rack travel in mm : 0.50
Tolerance mm : \pm 0.50

Current short-
duration A : 3.00

Starting test

Rated speed rpm : 100

Current A : 1.80

Adjustment of the control-rod travel sensor

control lever
position degree : 50.0

ADJUST ACTIVE SURGE DAMPING ARD

Rated speed rpm : 1000

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.10.94
Test oil : ISO 4113
Combination No. : 0400076965T8
Injection pump
Pump designation : PES6M55C320RS174
EP type number :
Governor
Governor design. : RSF315/2300M72-3
Governor no. :

Cust. part No. : T8

Customer-spec. information
Customer : MB-PKW
Motor : OM603-Abgl. MJ90
Power KW : 76.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1469990351

Inlet press. bar : 1.0

Test nozzle holder
assembly : 1688901111

Opening pressure
bar : 148.5
Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

E25

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 1.75
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00
Tolerance mm : ± 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1

°NW after s.o.d. : 17.0
Tolerance : ± 0.20

Check
tolerance °NW : ± 0.30

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.45
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 33.0

<hr/>	
Tolerance	
cm3/1000 strokes	: + 0.5
<hr/>	
Check tolerance	
cm3/1000S.	: + 1.5
<hr/>	
Spread	
<hr/>	
Tolerance	
cm3/1000 strokes	: 2.5
<hr/>	
Check tolerance	
cm3/1000S.	: 3.0
<hr/>	
2nd speed rpm	: 300
<hr/>	
Rack travel in mm	: 7.10
Tolerance mm	: + 0.10
Del. quantity	
cm3/1000 strokes	: 8.0
Tolerance	
cm3/1000 strokes	: + 0.5
Spread	
Tolerance	
cm3/1000 strokes	: 1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

IDLE STAGE

Rack travel in mm	: 6.50
Tolerance mm	: + 0.10

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1000
Ref. pressure	
ALDA / ADA hPa	: 1100
Del. quantity	
cm3/1000 strokes	: 33.0
Tolerance	
cm3/1000 strokes	: + 0.5
Check tolerance	
cm3/1000S.	: + 1.5
Spread	
Tolerance	
cm3/1000 strokes	: 2.5
Check tolerance	
cm3/1000S.	: 3.0

RATED SPEED

control lever	
position degree	: 50.0
<hr/>	
rack travel mm	: 9.30
Rated speed rpm	: 2500
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 2950

SET IDLE CONTROL LEVER POSITION

Rated speed rpm	: 1000
<hr/>	
CRT mm max.	: 1.45

LOW IDLE

control lever	
position degree	: 14.0
tolerance degree	: + 2.0

Setting point w/out bumper spring	
Rated speed rpm	: 300
rack travel mm	: 7.10

SET IDLE AUXILIARY SPRING

Rated speed rpm	: 360
rack travel mm	: 5.40
Tolerance mm	: + 0.10
<hr/>	
rack travel mm	: 2.50
Rated speed rpm	: 670
Tolerance 1/min	: + 50

Load pick-up

Rated speed rpm	: 220
CRT mm min.	: > 7.00
Rated speed rpm	: 1000
CRT mm max.	: 1.45
<hr/>	
rack travel mm	: 7.10
Rated speed rpm	: 300

TORQUE CONTROL

Rated speed rpm	: 1000
rack travel mm	: 12.45
Tolerance mm	: + 0.05

Rated speed rpm : 1800
rack travel mm : 11.90
Tolerance mm : \pm 0.10

Rated speed rpm : 2200
rack travel mm : 11.60
Tolerance mm : \pm 0.10

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 950
rack travel mm : -0.10
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 900
rack travel mm : -0.60
Tolerance mm : \pm 0.10

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 750
rack travel mm : -2.00
Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 1800
Del. quantity
cm³/1000 strokes : 35.3
Tolerance
cm³/1000 strokes : \pm 0.8
Check tolerance
cm³/1000S. : \pm 1.8
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 2200
Spreed
Del. quantity
cm³/1000 strokes : 35.5

Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

HIGH IDLE

Rated speed rpm : 2500
rack travel mm : 9.30
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 3.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.10
Del. quantity
cm³/1000 strokes : 52.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 7.10
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 9.3
Check tolerance
cm³/1000S. : \pm 2.3
Spreed
Check tolerance
cm³/1000S. : 1.5

CHECKING THE IDLE-SPEED AUXILIARY

degree : > 49.00

degree : < 46.50

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever
position degree : 14.0
tolerance degree : \pm 2.0
Rated speed rpm : 315

Rack travel in mm : 13.50
Tolerance mm : \pm 0.70
Del. quantity
cm³/1000 strokes : 33.0
Tolerance
cm³/1000 strokes : \pm 4.0

Current A : 1.80

control lever
position degree : 50.0
Rated speed rpm : 2950

Rack travel in mm : 0.50
Tolerance mm : \pm 0.50

Current short-
duration A : 3.00

Starting test

Rated speed rpm : 100

Current A : 1.80

Adjustment of the control-rod travel sensor

control lever
position degree : 50.0

ADJUST ACTIVE SURGE DAMPING ARD

Rated speed rpm : 1000

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.10.94
Test oil : ISO 4113
Combination No. : 0400076967T8
Injection pump
Pump designation : PES6M55C320RS171-1
EP type number :

Governor
Governor design. : RSF315/2300M60-8
Governor no. :

Cust. part No. : T8

Customer spec. information
Customer : MB-PKW
Motor : OM603-ECE
Power KW : 80.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1469990351

Inlet press. bar : 1.0

Test nozzle holde
assembly : 1688901111

Opening pressure
bar : 148.5
Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

F01

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 2.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00
Tolerance mm : ± 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1

°NW after s.o.d. : 19.5
Tolerance : ± 0.20
Check
tolerance °NW : ± 0.30

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.55
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 32.5

<hr/>	
Tolerance	
cm3/1000 strokes	: ± 0.5
<hr/>	
Check tolerance	
cm3/1000S.	: ± 1.5
<hr/>	
Spreed	
<hr/>	
Tolerance	
cm3/1000 strokes	: 2.5
<hr/>	
Check tolerance	
cm3/1000S.	: 3.0
<hr/>	
2nd speed rpm	: 290
<hr/>	
Rack travel in mm	: 7.20
Tolerance mm	: ± 0.10
Del. quantity	
cm3/1000 strokes	: 7.0
Tolerance	
cm3/1000 strokes	: ± 0.5
Spreed	
Tolerance	
cm3/1000 strokes	: 1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

IDLE STAGE

Rack travel in mm	: 6.50
Tolerance mm	: ± 0.10

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1000
Ref. pressure	
ALDA / ADA hPa	: 1100
Del. quantity	
cm3/1000 strokes	: 32.5
Tolerance	
cm3/1000 strokes	: ± 0.5
Check tolerance	
cm3/1000S.	: ± 1.5
Spreed	
Tolerance	
cm3/1000 strokes	: 2.5
Check tolerance	
cm3/1000S.	: 3.0

RATED SPEED

control lever	
position degree	: 50.0
<hr/>	
rack travel mm	: 9.20
Rated speed rpm	: 2500
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 2950

SET IDLE CONTROL LEVER POSITION

Rated speed rpm	: 1000
<hr/>	
CRT mm max.	: 1.75

LOW IDLE

control lever	
position degree	: 14.0
tolerance degree	: ± 2.0

Setting point w/out bumper spring	
Rated speed rpm	: 290
rack travel mm	: 7.20

SET IDLE AUXILIARY SPRING

Rated speed rpm	: 360
rack travel mm	: 5.60
Tolerance mm	: ± 0.10
<hr/>	
rack travel mm	: 2.50
Rated speed rpm	: 650
Tolerance 1/min	: ± 50

Load pick-up

Rated speed rpm	: 220
CRT mm min.	: > 9.00
<hr/>	
Rated speed rpm	: 1000
CRT mm max.	: 1.75
<hr/>	
rack travel mm	: 7.20
Rated speed rpm	: 290

TORQUE CONTROL

Rated speed rpm	: 1000
rack travel mm	: 12.55
Tolerance mm	: ± 0.05

Rated speed rpm : 1400
rack travel mm : 12.40
Tolerance mm : \pm 0.10

Rated speed rpm : 2200
rack travel mm : 12.10
Tolerance mm : \pm 0.10

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 950
rack travel mm : -0.10
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 900
rack travel mm : -0.60
Tolerance mm : \pm 0.10

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 750
rack travel mm : -2.00
Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 1400
Del. quantity
cm³/1000 strokes : 30.8
Tolerance
cm³/1000 strokes : \pm 0.8
Check tolerance
cm³/1000S. : \pm 1.8
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 2200
Spreed
Del. quantity
cm³/1000 strokes : 35.0

Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

HIGH IDLE

Rated speed rpm : 2500
rack travel mm : 9.20
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 3.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.10
Del. quantity
cm³/1000 strokes : 52.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 290
rack travel mm : 7.20
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 8.3
Check tolerance
cm³/1000S. : \pm 2.3
Spreed
Check tolerance
cm³/1000S. : 1.5

CHECKING THE IDLE-SPEED AUXILIARY

degree : > 49.00

degree : < 46.00

SETTING/TESTING ELECTRONIC IDLE
REGULATION (ELR)

control lever
position degree : 14.0
tolerance degree : \pm 2.0
Rated speed rpm : 315

Rack travel in mm : 13.20
Tolerance mm : \pm 0.40
Tolerance
cm³/1000 strokes : \pm 4.0

Current A : 1.80

control lever
position degree : 50.0
Rated speed rpm : 2950

Rack travel in mm : 0.50
Tolerance mm : \pm 0.50

Current short-
duration A : 3.00

Starting test

Rated speed rpm : 100

Current A : 1.80

Adjustment of the control-rod travel
sensor

control lever
position degree : 50.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.10.94
Test oil : ISO 4113
Combination No. : 0400076968T8
Injection pump
Pump designation : PES6M55C320RS178
EP type number :
Governor
Governor design. : RSF315/2125M64-13
Governor no. :
Cust. part No. : T8

Customer-spec. information
Customer : MB-PKW
Motor : OM603A D35 USA
Power KW : 100.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1469990351
Inlet press. bar : 1.0
Test nozzle holde
assembly : 1688901111
Opening pressure
bar : 148.5
Tolerance bar : + 1.5
Test lines : 1680750014
Outside diameter : 6.0
x inside diameter : 2.0

F05

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0
Prestroke mm : 1.75
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 21.00
Tolerance mm : + 1.00
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1
°NW after s.o.d. : 17.0
Tolerance : + 0.20
Check
tolerance °NW : + 0.30

BASIC SETTING

Rated speed rpm : 1000
Rack travel in mm : 13.75
Tolerance mm : + 0.05

Del. quantity cm ³ /1000 strokes	: 60.0
Tolerance cm ³ /1000 strokes	: ± 0.5
Check tolerance cm ³ /1000S.	: ± 1.5
Spreed	
Tolerance cm ³ /1000 strokes	: 2.5
Check tolerance cm ³ /1000S.	: 3.0
2nd speed rpm	: 290
Rack travel in mm	: 5.75
Tolerance mm	: ± 0.15
Del. quantity cm ³ /1000 strokes	: 7.0
Tolerance cm ³ /1000 strokes	: ± 0.5
Spreed	
Tolerance cm ³ /1000 strokes	: 1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

IDLE STAGE

Rack travel in mm	: 5.50
Tolerance mm	: ± 0.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1000
Ref. pressure ALDA / ADA hPa	: 1850
Del. quantity cm ³ /1000 strokes	: 60.0
Tolerance cm ³ /1000 strokes	: ± 0.5
Check tolerance cm ³ /1000S.	: ± 1.5
Spreed	
Tolerance cm ³ /1000 strokes	: 2.5
Check tolerance cm ³ /1000S.	: 3.0

RATED SPEED

control lever position degree	: 50.0
rack travel mm	: 6.70
Rated speed rpm	: 2300
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 2700

SET IDLE CONTROL LEVER POSITION

Rated speed rpm	: 1000
CRT mm max.	: 1.45

LOW IDLE

control lever position degree	: 10.0
tolerance degree	: ± 2.0

Setting point w/out bumper spring

Rated speed rpm	: 290
rack travel mm	: 5.75

SET IDLE AUXILIARY SPRING

Rated speed rpm	: 400
rack travel mm	: 3.85
Tolerance mm	: ± 0.25

Load pick-up

Rated speed rpm	: 200
CRT mm min.	: > 7.00
Rated speed rpm	: 1000
CRT mm max.	: 1.45
rack travel mm	: 5.75
Rated speed rpm	: 290

TORQUE CONTROL

Rated speed rpm	: 1000
rack travel mm	: 13.75
Tolerance mm	: ± 0.05

Rated speed rpm : 1600
rack travel mm : 12.80
Tolerance mm : \pm 0.10

Rated speed rpm : 2000
rack travel mm : 11.40
Tolerance mm : \pm 0.10

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 1600

MEASUREMENT

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 1100

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 750

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : 1850
Rated speed rpm : 1600
Del. quantity
cm³/1000 strokes : 56.3
Tolerance
cm³/1000 strokes : \pm 0.8
Check tolerance
cm³/1000S. : \pm 1.8
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : 1850
Rated speed rpm : 2000
Spreed
Del. quantity
cm³/1000 strokes : 50.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 2.0
Spreed

Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 41.5
Tolerance
cm³/1000 strokes : \pm 0.5
Check tolerance
cm³/1000S. : \pm 1.5
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

HIGH IDLE

Rated speed rpm : 2300
rack travel mm : 6.70
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 3.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.10
Del. quantity
cm³/1000 strokes : 52.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 290

rack travel mm : 5.75
Tolerance mm : \pm 0.15
Del. quantity
cm³/1000 strokes : 8.3
Check tolerance
cm³/1000S. : \pm 2.3
Spreed
Check tolerance
cm³/1000S. : 1.5

CHECKING THE IDLE-SPEED AUXILIARY

degree : > 44.50
degree : < 42.00

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever
position degree : 10.0
tolerance degree : \pm 2.0
Rated speed rpm : 315
Tolerance
cm³/1000 strokes : \pm 4.0
Current A : 1.80

control lever
position degree : 50.0
Rated speed rpm : 2700

Rack travel in mm : 0.50
Tolerance mm : \pm 0.50

Current short-
duration A : 3.00

Starting test

Rated speed rpm : 100
Current A : 1.80

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Receiving inspection
Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 1850
Set quantity with
control lever
cm³/1000 strokes : 23.0

Tolerance
cm³/1000 strokes : \pm 0.5
Voltage Volt : 1.636
Tolerance Volt : \pm 0.003
Check tolerance
Volt : \pm 0.001

Adjustment of the control-rod travel sensor

control lever
position degree : 50.0
Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 1850

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.10.94
Test oil : ISO 4113

Combination No. : 0400076971T8

Injection pump
Pump designation : PES6M55C320RS171
EP type number :

Governor
Governor design. : RSF315/2300M60-8
Governor no. :

Cust. part No. : T8

Customer-spec. information

Customer : MB-PKW
Motor : OM603-ECE
Power KW : 80.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1469990351

Inlet press. bar : 1.0

Test nozzle holde
assembly : 1688901111

Opening pressure
bar : 148.5
Tolerance bar : + 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 2.05
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 21.00
Tolerance mm : + 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1

°NW after s.o.d. : 19.5
Tolerance : + 0.20
Check
tolerance °NW : + 0.30

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.05
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 32.5

Tolerance
cm3/1000 strokes : + 0.5

Check tolerance
cm3/1000S. : + 1.5

Spreed

Tolerance
cm3/1000 strokes : 2.5

Check tolerance
cm3/1000S. : 3.0

2nd speed rpm : 290

Rack travel in mm : 6.80
Tolerance mm : + 0.10

Del. quantity
cm3/1000 strokes : 7.0

Tolerance
cm3/1000 strokes : + 0.5

Spreed
Tolerance
cm3/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

IDLE STAGE

Rack travel in mm : 6.50
Tolerance mm : + 0.10

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 1100
Del. quantity
cm3/1000 strokes : 32.5
Tolerance
cm3/1000 strokes : + 0.5
Check tolerance
cm3/1000S. : + 1.5
Spreed
Tolerance
cm3/1000 strokes : 2.5
Check tolerance
cm3/1000S. : 3.0

RATED SPEED

control lever
position degree : 50.0

rack travel mm : 8.70
Rated speed rpm : 2500

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 2950

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000

CRT mm max. : 1.25

LOW IDLE

control lever
position degree : 14.0
tolerance degree : + 2.0

Setting point w/out bumper spring
Rated speed rpm : 290
rack travel mm : 6.80

SET IDLE AUXILIARY SPRING

Rated speed rpm : 360
rack travel mm : 5.10
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 670
Tolerance 1/min : + 50

Load pick-up

Rated speed rpm : 220
CRT mm min. : > 8.50

Rated speed rpm : 1000
CRT mm max. : 1.25

rack travel mm : 6.80
Rated speed rpm : 290

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 12.05
Tolerance mm : + 0.05

Rated speed rpm : 1400
rack travel mm : 11.80
Tolerance mm : \pm 0.10

Rated speed rpm : 2200
rack travel mm : 11.50
Tolerance mm : \pm 0.10

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 950
rack travel mm : -0.10
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 900
rack travel mm : -0.60
Tolerance mm : \pm 0.10

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 750
rack travel mm : -2.00
Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 1400
Del. quantity
cm³/1000 strokes : 32.8
Tolerance
cm³/1000 strokes : \pm 0.8
Check tolerance
cm³/1000S. : \pm 1.8
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 2200
Spreed
Del. quantity
cm³/1000 strokes : 35.0

Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

HIGH IDLE

Rated speed rpm : 2500
rack travel mm : 8.70
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 3.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.10
Del. quantity
cm³/1000 strokes : 52.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 290
rack travel mm : 6.80
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 8.3
Check tolerance
cm³/1000S. : \pm 2.3
Spreed
Check tolerance
cm³/1000S. : 1.5

CHECKING THE IDLE-SPEED AUXILIARY

degree : > 49.00

degree : < 46.50

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever
position degree : 14.0
tolerance degree : \pm 2.0
Rated speed rpm : 315

Rack travel in mm : 13.00
Tolerance mm : \pm 0.70
Del. quantity
cm³/1000 strokes : 33.0
Tolerance
cm³/1000 strokes : \pm 4.0

Current A : 1.80

control lever
position degree : 50.0
Rated speed rpm : 2950

Rack travel in mm : 0.50
Tolerance mm : \pm 0.50

Current short-
duration A : 3.00

Starting test

Rated speed rpm : 100

Current A : 1.80

Adjustment of the control-rod travel sensor

control lever
position degree : 50.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.10.94
Test oil : ISO 4113
Combination No. : 0401446150
Injection pump
Pump designation : PE6R130/720RS1506
EP type number : 0411436002
Governor
Governor design. : RQV250...1050R4K
Governor no. : 0421415003
Cust. part No. : 865 020 SKOEVDE E.KO

Customer-spec. information
Customer : PENTA
Motor : TAMD163 P-A
Power KW : 553.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 2417413078
Inlet press. bar : 2.5
Tolerance bar : + 0.1
Test nozzle holde
assembly : 1688901105
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1680750089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0
Prestroke mm : 4.45
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 0.50
Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1050
Rack travel in mm : 14.70
Tolerance mm : + 0.05
Del. quantity
cm³/1000 strokes : 464.0

Tolerance
cm³/1000 strokes : + 2.0

Check tolerance
cm³/1000S. : + 5.0

Spread
Tolerance
cm³/1000 strokes : 13.0

Check tolerance
cm³/1000S. : 17.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.26
Tolerance mm : + 0.25

Rated speed rpm : 1106
guide sleeve
travel mm : 9.18
Tolerance mm : + 0.25

Rated speed rpm : 895
guide sleeve
travel mm : 6.42
Tolerance mm : + 0.25

Rated speed rpm : 310
guide sleeve
travel mm : 2.00
Tolerance mm : + 0.25

Rated speed rpm : 360
guide sleeve
travel mm : 2.41
Tolerance mm : + 0.25

Rated speed rpm : 570
guide sleeve
travel mm : 3.54
Tolerance mm : + 0.25

Rated speed rpm : 1360
guide sleeve
travel mm : 13.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1205

Rack travel in mm : 11.00
Tolerance mm : + 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 2200
Del. quantity
cm³/1000 strokes : 464.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0
Spread
Tolerance
cm³/1000 strokes : 13.0
Check tolerance
cm³/1000S. : 17.0

RATED SPEED

tolerance degree : + 4.0

control lever
position degree : 119.0
tolerance degree : + 4.0

rack travel mm : 13.70
Rated speed rpm : 1105
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1200
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 6.65

Tolerance mm : \pm 0.20
Rated speed rpm : 150
CRT mm min. : $>$ 7.70
Rated speed rpm : 380

TORQUE CONTROL

Rated speed rpm : 850
rack travel mm : 13.20
Tolerance mm : \pm 0.15

Rated speed rpm : 975
rack travel mm : 14.60
Tolerance mm : \pm 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1050
Pressure hPa : 2200
rack travel mm : 14.70
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1050
rack travel mm : 8.70
Tolerance mm : \pm 0.15

Rated speed rpm : 1050

Pressure hPa : 1570
rack travel mm : 5.10
Tolerance mm : \pm 0.10

Pressure hPa : 400
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2200
Rated speed rpm : 850
Del. quantity
cm³/1000 strokes : 413.0
Tolerance
cm³/1000 strokes : \pm 4.0

Check tolerance
cm³/1000S. : \pm 7.0
Spreed
Tolerance
cm³/1000 strokes : 15.0
Check tolerance
cm³/1000S. : 19.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 238.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

BREAKAWAY

Rack travel in mm : 13.70
Rated speed rpm : 1105
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 410.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 13.10.94
Test oil : ISO 4113
Combination No. : 0401846992
Injection pump
Pump designation : PE6P110A320RS3266
EP type number : 0411816777
Governor
Governor design. : RQV300...1100PA1182
Governor no. : 0421814110

Cust. part No. : 11030875 P02

Customer-spec. information

Customer : VME
Motor : TD63KBE LAD. L90
Power KW : 115.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2417413046

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 2.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BASIC SETTING

Rated speed rpm : 1025

Rack travel in mm : 11.80
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 135.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spreed	
Tolerance	
cm3/1000 strokes :	5.0
Check tolerance	
cm3/1000S. :	9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve	
travel mm	: 1.51
Tolerance mm	: + 0.25

Rated speed rpm	: 1172
guide sleeve	
travel mm	: 8.69
Tolerance mm	: + 0.25

Rated speed rpm	: 822
guide sleeve	
travel mm	: 5.40
Tolerance mm	: + 0.25

Rated speed rpm	: 356
guide sleeve	
travel mm	: 1.99
Tolerance mm	: + 0.25

Rated speed rpm	: 406
guide sleeve	
travel mm	: 2.42
Tolerance mm	: + 0.25

Rated speed rpm	: 510
guide sleeve	
travel mm	: 3.11
Tolerance mm	: + 0.25

Rated speed rpm	: 1390
guide sleeve	
travel mm	: 11.50
Tolerance mm	: + 0.50

GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 1240

Rack travel in mm	: 11.00
Tolerance mm	: + 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1025
Aneroid pressure	
hPa	: 1500
Del. quantity	
cm3/1000 strokes	: 135.0
Tolerance	
cm3/1000 strokes	: + 1.0
Check tolerance	
cm3/1000S.	: + 3.0
Spreed	
Tolerance	
cm3/1000 strokes	: 5.0
Check tolerance	
cm3/1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 50.0
tolerance degree	: + 4.0

control lever	
position degree	: 118.0
tolerance degree	: + 4.0

rack travel mm	: 10.80
Rated speed rpm	: 1160
Tolerance 1/min	: + 5

rack travel mm	: 4.00
Rated speed rpm	: 1250
Tolerance 1/min	: + 15

rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1330

LOW IDLE

control lever	
position degree	: 85.0
tolerance degree	: + 4.0

control lever	
position degree	: 18.0
tolerance degree	: + 4.0

Testing:

Rated speed rpm	: 300
rack travel mm	: 5.80
Tolerance mm	: + 0.20

Rated speed rpm : 200
CRT mm min. : > 8.00
Rated speed rpm : 370

TORQUE CONTROL

Rated speed rpm : 1025
rack travel mm : 11.80
Tolerance mm : \pm 0.05

Rated speed rpm : 625
rack travel mm : 12.20
Tolerance mm : \pm 0.15

Rated speed rpm : 820
rack travel mm : 12.00
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 625
Pressure hPa : 1500
rack travel mm : 12.20
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 625
rack travel mm : 9.30
Tolerance mm : \pm 0.20

Rated speed rpm : 625

Pressure hPa : 650
rack travel mm : 2.30
Tolerance mm : \pm 0.20

Pressure hPa : 90
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 625
Del. quantity
cm³/1000 strokes : 150.0

Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 625
Del. quantity
cm³/1000 strokes : 89.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 10.80
Rated speed rpm : 1160
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.30
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 103.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 18.10.94
Test oil : ISO 4113

Combination No. : 0402746909

Injection pump
Pump designation : PES6P120A320RS7236
EP type number : 0412726848

Governor
Governor design. : RQV275...1000PA1001
Governor no. : 0421813936

Cust. part No. : CCEP 5116A PROJ.171

Customer-spec. information

Customer : RVI
Motor : MIDR 063540 J/3
Power KW : 306.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2417413071

Inlet press. bar : 2.5

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 13.80
Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm ³ /1000 strokes :	310.0
<hr/>	
Tolerance	
cm ³ /1000 strokes :	+ 1.0
<hr/>	
Check tolerance	
cm ³ /1000S. :	+ 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes :	5.0
<hr/>	
Check tolerance	
cm ³ /1000S. :	9.0
<hr/>	
2nd speed rpm	: 300
<hr/>	
Rack travel in mm :	-8.50
Tolerance mm :	+ 0.20
Del. quantity	
cm ³ /1000 strokes :	31.0
Tolerance	
cm ³ /1000 strokes :	+ 2.0
Check tolerance	
cm ³ /1000S. :	+ 5.0
Spreed	
Tolerance	
cm ³ /1000 strokes :	8.0
Check tolerance	
cm ³ /1000S. :	12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever	
position degree :	- 1
Rated speed rpm :	1150
<hr/>	
Rack travel in mm :	16.50
Tolerance mm :	+ 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	600
Aneroid pressure	
hPa :	1000
Del. quantity	
cm ³ /1000 strokes :	310.0
Tolerance	
cm ³ /1000 strokes :	+ 1.0

Check tolerance	
cm ³ /1000S. :	+ 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes :	5.0
Check tolerance	
cm ³ /1000S. :	9.0

RATED SPEED

control lever	
position degree :	302.0
tolerance degree :	+ 4.0
<hr/>	
rack travel mm :	-1.00
Rated speed rpm :	1070
Tolerance 1/min :	+ 5
<hr/>	
rack travel mm :	-9.70
Rated speed rpm :	1210
Tolerance 1/min :	+ 15
<hr/>	
rack travel mm :	-13.25
Tolerance mm :	+ 0.55
Rated speed rpm :	1350

LOW IDLE

control lever	
position degree :	246.0
tolerance degree :	+ 4.0

Testing:

Rated speed rpm :	300
rack travel mm :	-8.60
Tolerance mm :	+ 0.10
<hr/>	
Rated speed rpm :	200
CRT mm max. :	< -7.20
<hr/>	
Rated speed rpm :	370

TORQUE CONTROL

Rated speed rpm :	1000
Tolerance mm :	+ 0.10
<hr/>	
Rated speed rpm :	500
rack travel mm :	-5.50
Tolerance mm :	+ 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -5.00
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 240
rack travel mm : -3.80
Tolerance mm : + 0.20

Pressure hPa : 600
rack travel mm : -0.95
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 225
Check
speed 1/min : < 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1000
Del. quantity
cm3/1000 strokes : 287.0
Tolerance
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 138.0
Tolerance
cm3/1000 strokes : + 5.0
Check tolerance
cm3/1000S. : + 8.0
Spreed
Tolerance
cm3/1000 strokes : 8.0

Check tolerance
cm3/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 152.0
Tolerance
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1070
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Del. quantity
cm3/1000 strokes : 160.0
Tolerance
cm3/1000 strokes : + 10.0
Check tolerance
cm3/1000S. : + 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : -8.50
Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 31.0
Tolerance
cm3/1000 strokes : + 2.0
Check tolerance
cm3/1000S. : + 5.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.10.94
Test oil : ISO 4113

Combination No. : 0402746953

Injection pump
Pump designation : PES6P120A320RS7294
EP type number : 0412726895

Governor
Governor design. : RQV275...1000PA1001
: -1
Governor no. : 0421813936

Cust. part No. : CCEP-5135 66-213

Customer spec. information
Customer : RVI
Motor : MIDR 063540 J/3
Power kW : 306.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2417413071

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750089

F22

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 13.80
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 310.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : -8.60
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 31.0

Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 1.29
Tolerance mm : \pm 0.10

Rated speed rpm : 1086
guide sleeve
travel mm : 8.46
Tolerance mm : \pm 0.10

Rated speed rpm : 773
guide sleeve
travel mm : 6.09
Tolerance mm : \pm 0.20

Rated speed rpm : 343

guide sleeve
travel mm : 2.33
Tolerance mm : \pm 0.20

Rated speed rpm : 393
guide sleeve
travel mm : 2.99
Tolerance mm : \pm 0.20

Rated speed rpm : 490
guide sleeve
travel mm : 3.81
Tolerance mm : \pm 0.20

Rated speed rpm : 1370
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1185

Rack travel in mm : 12.60
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 310.0

Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 302.0
tolerance degree : \pm 4.0

rack travel mm : -1.00
Rated speed rpm : 1070
Tolerance 1/min : \pm 5

rack travel mm : -9.70
Rated speed rpm : 1210
Tolerance 1/min : + 15

rack travel mm : -13.25
Tolerance mm : + 0.55
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 246.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : -8.60
Tolerance mm : + 0.10

Rated speed rpm : 200
CRT mm max. : < -7.20

Rated speed rpm : 370

TORQUE CONTROL

Rated speed rpm : 600

Rated speed rpm : 1000
Tolerance mm : + 0.10

Rated speed rpm : 500
rack travel mm : -5.50
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -5.00
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 240

rack travel mm : -3.80
Tolerance mm : + 0.20

Pressure hPa : 600
rack travel mm : -0.95
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 225
Check
speed 1/min : < 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 287.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 138.0
Tolerance
cm³/1000 strokes : + 5.0
Check tolerance
cm³/1000S. : + 8.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 152.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1070
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : -8.60
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 31.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.10.94
Test oil : ISO 4113
Combination No. : 0402946010
Injection pump
Pump designation : PES6P120A32ORS8028
EP type number : 0412926021
Governor
Governor design. : RQV275...1175PA1101K
Governor no. : 0421815982
Cust. part No. : CCEP 5133 A 66-193

Customer spec. information
Customer : RVI
Motor : MIDR 060226 M51
Power KW : 158.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2417413078
Inlet press. bar : 2.5
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 1688901105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Lube oil : 1409918004
Test lines : 1680750089

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.95
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 13.00
Tolerance mm : ± 0.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

betw. rack trav.
mm : 12.30
and maximum rack
travel : 21.00
Difference ° CS : 2.00
Tolerance : ± 0.75

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1175

Rack travel in mm : 13.70
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 270.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 275

Rack travel in mm : -7.40
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 40.0

Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 1.01
Tolerance mm : \pm 0.10

Rated speed rpm : 1230
guide sleeve
travel mm : 8.95
Tolerance mm : \pm 0.10

Rated speed rpm : 877
guide sleeve
travel mm : 6.51
Tolerance mm : \pm 0.20

Rated speed rpm : 389
guide sleeve
travel mm : 2.39
Tolerance mm : \pm 0.20

Rated speed rpm : 439
guide sleeve
travel mm : 3.01
Tolerance mm : \pm 0.20

Rated speed rpm : 550
guide sleeve
travel mm : 3.92
Tolerance mm : \pm 0.20

Rated speed rpm : 1650
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1430

Rack travel in mm : 11.20
Tolerance mm : \pm 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1175
Aneroid pressure
hPa : 1600
Del. quantity
cm³/1000 strokes : 270.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 295.0
tolerance degree : \pm 4.0

rack travel mm : -1.00
Rated speed rpm : 1250
Tolerance 1/min : \pm 5

rack travel mm : -9.70
Rated speed rpm : 1420
Tolerance 1/min : + 15

rack travel mm : -13.20
Tolerance mm : + 0.55
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 245.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 275
rack travel mm : -7.40
Tolerance mm : + 0.10

Rated speed rpm : 200
CRT mm max. : < -6.50
Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1175
Rated speed rpm : 650
rack travel mm : -1.70
Tolerance mm : + 0.10
Rated speed rpm : 350
rack travel mm : -2.95
Tolerance mm : + 0.25

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1175
Pressure hPa : 1600

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -5.40
Tolerance mm : + 0.20

Rated speed rpm : 1175

F28

Pressure hPa : 320
rack travel mm : -4.70
Tolerance mm : + 0.20

Pressure hPa : 560
rack travel mm : -2.95
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 215
Check
speed 1/min : < 235

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 262.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 148.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1250
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 100.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000S. : + 14.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : -7.40
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 40.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.10.94
Test oil : ISO 4113
Combination No. : 0403244036
Injection pump
Pump designation : PES4MW100/720RS1519
: -3
EP type number : 0413204018
Governor
Governor design. : RQV300...1300MW132
: -5
Governor no. : 0420083308
Cust. part No. : 0240740902

Customer-spec. information
Customer : MB-NFZ
Motor : OM364LA
Power KW : 77.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750089
Outside diameter : 8.0

G02

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.55
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 21.00
Firing order : 1-3-4-2
Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 11.50
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spreed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance cm ³ /1000S.	:	6.0
Del. quantity cm ³ /1000 strokes	:	12.0
Tolerance cm ³ /1000 strokes	:	+ 2.0
Check tolerance cm ³ /1000S.	:	+ 4.5
Speed Tolerance cm ³ /1000 strokes	:	3.5
Check tolerance cm ³ /1000S.	:	5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	:	- 1
Rated speed rpm	:	1400
Rack travel in mm	:	16.50
Tolerance mm	:	+ 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1300
Aneroid pressure hPa	:	700
Del. quantity cm ³ /1000 strokes	:	95.0
Tolerance cm ³ /1000 strokes	:	+ 1.0
Check tolerance cm ³ /1000S.	:	+ 3.0
Speed Tolerance cm ³ /1000 strokes	:	3.5
Check tolerance cm ³ /1000S.	:	6.0

RATED SPEED

control lever position degree	:	112.0
tolerance degree	:	+ 4.0
rack travel mm	:	10.50
Rated speed rpm	:	1345
Tolerance 1/min	:	+ 5

rack travel mm	:	4.00
Rated speed rpm	:	1435
Tolerance 1/min	:	+ 15
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	1550

LOW IDLE

control lever position degree	:	70.0
tolerance degree	:	+ 4.0

Testing:

Rated speed rpm	:	300
rack travel mm	:	4.00
Tolerance mm	:	+ 0.10
Rated speed rpm	:	200
CRT mm min.	:	> 4.50

TORQUE CONTROL

Rated speed rpm	:	1300
rack travel mm	:	11.50
Tolerance mm	:	+ 0.05
Rated speed rpm	:	750
rack travel mm	:	11.50
Tolerance mm	:	+ 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	500
Pressure hPa	:	-
rack travel mm	:	11.50
Tolerance mm	:	+ 0.05

MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	500
rack travel mm	:	10.70
Tolerance mm	:	+ 0.10
Rated speed rpm	:	500
Pressure hPa	:	290

rack travel mm : 11.25
Tolerance mm : \pm 0.10

Pressure hPa : 250
rack travel mm : 11.00
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : < 200
Check
speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 86.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 66.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.50
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : \pm 5.0

Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.10.94
Test oil : ISO 4113
Combination No. : 0403244039
Injection pump
Pump designation : PES4MW100/72ORS1519
: -3
EP type number : 0413204018
Governor
Governor design. : RQV300...1200MW132
: -7
Governor no. : 0420083312
Cust. part No. : 0250748402

Customer-spec. information
Customer : MB-NFZ
Motor : OM364LA
Power KW : 77.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1680750089
Outside diameter : 8.0

G05

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0
Prestroke mm : 4.55
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 21.00
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1200
Rack travel in mm : 11.50
Tolerance mm : + 0.05
Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0
Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
 cm³/1000S. : 6.0

 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
 guide sleeve
 travel mm : 1.15
 Tolerance mm : + 0.25

Rated speed rpm : 1254
 guide sleeve
 travel mm : 7.92
 Tolerance mm : + 0.25

Rated speed rpm : 671
 guide sleeve
 travel mm : 3.58
 Tolerance mm : + 0.25

Rated speed rpm : 721
 guide sleeve
 travel mm : 4.06
 Tolerance mm : + 0.25

Rated speed rpm : 970
 guide sleeve
 travel mm : 5.51
 Tolerance mm : + 0.25

Rated speed rpm : 1690
 guide sleeve
 travel mm : 13.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1400

Rack travel in mm : 16.50
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
 Aneroid pressure
 hPa : 700
 Del. quantity
 cm³/1000 strokes : 95.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 6.0

RATED SPEED

control lever
 position degree : 112.0
 tolerance degree : + 4.0

rack travel mm : 10.50
 Rated speed rpm : 1245
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1365
 Tolerance 1/min : + 15

rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1450

LOW IDLE

control lever
 position degree : 70.0
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 4.00
 Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm min. : > 4.50

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 11.50
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 11.50
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 11.50
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.70
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 290
rack travel mm : 11.25
Tolerance mm : \pm 0.10

Pressure hPa : 250
rack travel mm : 11.00
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : < 200
Check
speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 86.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 66.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.50
Rated speed rpm : 1245
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.10.94
Test oil : ISO 4113
Combination No. : 0403246034
Injection pump
Pump designation : PES6MW100/720RS1517
: -2
EP type number : 0413206019
Governor
Governor design. : RGV300...1300MW132
Governor no. : 0420083291
Cust. part No. : 0200744802

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 177.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1680750089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0
Prestroke mm : 4.55
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 21.00
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 14.40
Tolerance mm : + 0.05
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spreed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.02
Tolerance mm : ± 0.25

Rated speed rpm : 1353
guide sleeve
travel mm : 6.70
Tolerance mm : ± 0.25

Rated speed rpm : 1100
guide sleeve
travel mm : 4.76
Tolerance mm : ± 0.25

Rated speed rpm : 490
guide sleeve
travel mm : 2.25
Tolerance mm : ± 0.25

Rated speed rpm : 540
guide sleeve
travel mm : 2.50
Tolerance mm : ± 0.25

Rated speed rpm : 710
guide sleeve
travel mm : 3.03
Tolerance mm : ± 0.25

Rated speed rpm : 1683
guide sleeve
travel mm : 12.00
Tolerance mm : ± 0.25

Rated speed rpm : 1780
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1400

Rack travel in mm : 12.00
Tolerance mm : ± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 120.0
tolerance degree : ± 4.0

rack travel mm : 13.40
Rated speed rpm : 1345
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1495
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1600

LOW IDLE

control lever
position degree : 82.0

tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.00
Tolerance mm : + 0.10

Rated speed rpm : 200
CRT mm min. : > 5.00

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 14.40
Tolerance mm : + 0.05

Rated speed rpm : 750
rack travel mm : 14.40
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 14.40
Tolerance mm : + 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.40
Tolerance mm : + 0.05

Rated speed rpm : 500

Pressure hPa : 800
rack travel mm : 13.70
Tolerance mm : + 0.10

Pressure hPa : 450
rack travel mm : 11.30
Tolerance mm : + 0.10

START CUT-OUT

Rated speed rpm : < 200
Check
speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 132.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 46.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1345
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : + 5.0
Check tolerance
cm³/1000S. : + 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.5

Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.10.94
Test oil : ISO 4113
Combination No. : 0403246036
Injection pump
Pump designation : PES6MW100/720RS1517
: -2
EP type number : 0413206019
Governor
Governor design. : RQV300...1300MW132
: -4
Governor no. : 0420083299
Cust. part No. : 0240744402

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 155.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.55
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 21.00
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 13.50
Tolerance mm : ± 0.05
Del. quantity
cm3/1000 strokes : 120.0
Tolerance
cm3/1000 strokes : ± 1.0
Check tolerance
cm3/1000S. : ± 3.0
Spreed

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Spreed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.02
Tolerance mm : ± 0.25

Rated speed rpm : 1353
guide sleeve
travel mm : 6.70
Tolerance mm : ± 0.25

Rated speed rpm : 1100
guide sleeve
travel mm : 4.76
Tolerance mm : ± 0.25

Rated speed rpm : 490
guide sleeve
travel mm : 2.25
Tolerance mm : ± 0.25

Rated speed rpm : 540
guide sleeve
travel mm : 2.50
Tolerance mm : ± 0.25

Rated speed rpm : 710
guide sleeve
travel mm : 3.03
Tolerance mm : ± 0.25

Rated speed rpm : 1683
guide sleeve
travel mm : 12.00
Tolerance mm : ± 0.25

Rated speed rpm : 1780
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1400

Rack travel in mm : 13.00
Tolerance mm : ± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 118.0
tolerance degree : ± 4.0

rack travel mm : 12.50
Rated speed rpm : 1345
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1485
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 72.0

tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.80
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm min. : > 4.50

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 13.50
Tolerance mm : + 0.05

Rated speed rpm : 750
rack travel mm : 13.50
Tolerance mm : + 0.10

Rated speed rpm : 600
rack travel mm : 13.50
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 13.50
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.00
Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : 600
rack travel mm : 12.60
Tolerance mm : + 0.10

Pressure hPa : 300
rack travel mm : 10.80
Tolerance mm : + 0.10

START CUT-OUT

Rated speed rpm : < 200

Check
speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 120.0
Tolerance

cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000S. : + 4.0

Speed
Tolerance
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 123.0
Tolerance
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000S. : + 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 52.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0

BREAKAWAY

Rack travel in mm : 12.50
Rated speed rpm : 1345
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : + 5.0
Check tolerance
cm³/1000S. : + 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.10.94
Test oil : ISO 4113
Combination No. : 0403246038
Injection pump
Pump designation : PES6MW100/720RS1517
: -2
EP type number : 0413206019
Governor
Governor design. : RQV300...1300MW132
: -10
Governor no. : 0420083315
Cust. part No. : 0250743902

Customer spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 155.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1680750089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0
Prestroke mm : 4.55
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 21.00
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 13.50
Tolerance mm : + 0.05
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0
Speed

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Spreed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.02
Tolerance mm : ± 0.25

Rated speed rpm : 1354
guide sleeve
travel mm : 6.71
Tolerance mm : ± 0.25

Rated speed rpm : 1090
guide sleeve
travel mm : 4.70
Tolerance mm : ± 0.25

Rated speed rpm : 490
guide sleeve
travel mm : 2.25
Tolerance mm : ± 0.25

Rated speed rpm : 540
guide sleeve
travel mm : 2.54
Tolerance mm : ± 0.25

Rated speed rpm : 690
guide sleeve
travel mm : 2.97
Tolerance mm : ± 0.25

Rated speed rpm : 1683
guide sleeve
travel mm : 12.00
Tolerance mm : ± 0.25

Rated speed rpm : 1780
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1400

Rack travel in mm : 13.00
Tolerance mm : ± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 118.0
tolerance degree : ± 4.0

rack travel mm : 12.50
Rated speed rpm : 1345
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1485
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 72.0

tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.80
Tolerance mm : \pm 0.10

Rated speed rpm : 200

CRT mm min. : $>$ 4.50

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 13.50
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 13.50
Tolerance mm : \pm 0.10

Rated speed rpm : 600
rack travel mm : 13.50
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 13.50
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.00
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 600
rack travel mm : 12.60
Tolerance mm : \pm 0.10

Pressure hPa : 300
rack travel mm : 10.80
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $<$ 200

Check
speed 1/min : $<$ 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 120.0

Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 123.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 1300
Del. quantity
cm³/1000 strokes : 104.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 52.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 12.50
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.10.94
Test oil : ISO 4113
Combination No. : 0403446317
Injection pump
Pump designation : PES6MW100/320RS1214
: -1
EP type number : 0413406224
Governor
Governor design. : RQV275...1250MW115K
Governor no. : 0420083994

Cust. part No. :

Customer-spec. information

Customer : RVI
Motor : MIDR 060226 W
Power KW : 151.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2417413033

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 4.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 18.00
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 14.15

Rack travel in mm : 14.15
Tolerance mm : + 0.05
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 119.0

Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 3.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 3.5
Check tolerance	
cm ³ /1000S.	: 6.0
Del. quantity	
cm ³ /1000 strokes	: 20.0
Tolerance	
cm ³ /1000 strokes	: + 2.0
Check tolerance	
cm ³ /1000S.	: + 4.5
Spread	
Tolerance	
cm ³ /1000 strokes	: 3.5
Check tolerance	
cm ³ /1000S.	: 5.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 275
guide sleeve	
travel mm	: 1.00
Tolerance mm	: + 0.25
Rated speed rpm	: 1344
guide sleeve	
travel mm	: 9.99
Tolerance mm	: + 0.25
Rated speed rpm	: 924
guide sleeve	
travel mm	: 6.77
Tolerance mm	: + 0.25
Rated speed rpm	: 390
guide sleeve	
travel mm	: 2.39
Tolerance mm	: + 0.25
Rated speed rpm	: 440
guide sleeve	
travel mm	: 3.01
Tolerance mm	: + 0.25
Rated speed rpm	: 550

guide sleeve	
travel mm	: 3.92
Tolerance mm	: + 0.25

Rated speed rpm	: 1650
guide sleeve	
travel mm	: 13.50
Tolerance mm	: + 0.50

GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 1350
Rack travel in mm	: 16.50
Tolerance mm	: + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1250
Aneroid pressure	
hPa	: 1000
Del. quantity	
cm ³ /1000 strokes	: 119.0
Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 3.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 3.5
Check tolerance	
cm ³ /1000S.	: 6.0

RATED SPEED

control lever	
position degree	: 302.0
tolerance degree	: + 4.0
rack travel mm	: -1.00
Rated speed rpm	: 1305
Tolerance 1/min	: + 5
rack travel mm	: -10.10
Rated speed rpm	: 1465
Tolerance 1/min	: + 15
rack travel mm	: -13.60
Tolerance mm	: + 0.50
Rated speed rpm	: 1600

LOW IDLE

control lever
position degree : 244.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 275
rack travel mm : -8.10
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : $>$ -7.50

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 14.15
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : -0.80
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : -5.50
Tolerance mm : \pm 0.10

Rated speed rpm : 350
rack travel mm : -1.60
Tolerance mm : \pm 0.40

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1250
rack travel mm : -3.00
Tolerance mm : \pm 0.20

Rated speed rpm : 1250

Pressure hPa : 200
rack travel mm : -2.35
Tolerance mm : \pm 0.15

Pressure hPa : 300
rack travel mm : -1.75

Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $<$ 230
Check
speed 1/min : $<$ 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 117.0

Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Spreed

Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 60.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 7.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 80.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1305
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 13.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.10.94
Test oil : ISO 4113
Combination No. : 0403446319
Injection pump
Pump designation : PES6MW100/320RS1216
: -1
EP type number : 0413406223
Governor
Governor design. : RQV275...1250MW124K
Governor no. : 0420083989

Cust. part No. :

Customer-spec. information

Customer : RVI
Motor : MIDR 060226 U
Power KW : 110.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2417413033

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.00
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.25

Rack travel in mm : 13.25
Tolerance mm : ± 0.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 106.0

Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 3.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 3.5
Check tolerance	
cm ³ /1000S.	: 6.0
Del. quantity	
cm ³ /1000 strokes	: 22.0
Tolerance	
cm ³ /1000 strokes	: + 2.0
Check tolerance	
cm ³ /1000S.	: + 4.5
Spreed	
Tolerance	
cm ³ /1000 strokes	: 3.5
Check tolerance	
cm ³ /1000S.	: 5.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 275
guide sleeve	
travel mm	: 1.00
Tolerance mm	: + 0.25
Rated speed rpm	: 1344
guide sleeve	
travel mm	: 9.99
Tolerance mm	: + 0.25
Rated speed rpm	: 924
guide sleeve	
travel mm	: 6.77
Tolerance mm	: + 0.25
Rated speed rpm	: 390
guide sleeve	
travel mm	: 2.39
Tolerance mm	: + 0.25
Rated speed rpm	: 440
guide sleeve	
travel mm	: 3.01
Tolerance mm	: + 0.25
Rated speed rpm	: 550

guide sleeve	
travel mm	: 3.92
Tolerance mm	: + 0.25

Rated speed rpm	: 1650
guide sleeve	
travel mm	: 13.50
Tolerance mm	: + 0.50

GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 1350
Rack travel in mm	: 16.50
Tolerance mm	: + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1250
Aneroid pressure	
hPa	: -
Del. quantity	
cm ³ /1000 strokes	: 106.0
Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 3.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 3.5
Check tolerance	
cm ³ /1000S.	: 6.0

RATED SPEED

control lever	
position degree	: 300.0
tolerance degree	: + 4.0
rack travel mm	: -1.00
Rated speed rpm	: 1310
Tolerance 1/min	: + 5
rack travel mm	: -9.10
Rated speed rpm	: 1465
Tolerance 1/min	: + 15
rack travel mm	: -12.60
Tolerance mm	: + 0.50
Rated speed rpm	: 1600

LOW IDLE

control lever
position degree : 245.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 275
rack travel mm : -7.20
Tolerance mm : \pm 0.20

Rated speed rpm : 200

CRT mm min. : $>$ -6.60

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 13.25
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : -1.35
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : -4.50
Tolerance mm : \pm 0.10

Rated speed rpm : 350
rack travel mm : -2.40
Tolerance mm : \pm 0.40

START CUT-OUT

Rated speed rpm : $<$ 230
Check
speed 1/min : $<$ 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 93.5
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 57.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 7.5

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1310
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 13.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.10.94
Test oil : ISO 4113
Combination No. : 0403446332
Injection pump
Pump designation : PES6MW100/720RS1131
EP type number : 0413406123
Governor
Governor design. : RQV300...1300MW50
Governor no. : 0420083311
Cust. part No. : 0250748202

Customer-spec. information
Customer : MB-NFZ
Motor : OM 366 A
Power KW : 110.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1680715089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0
Prestroke mm : 3.75
Tolerance mm : + 0.05
test only : + 0.05
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 9.05
Tolerance mm : + 0.05
Del. quantity
cm³/1000 strokes : 65.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0
Speed

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.40
Tolerance mm : ± 0.25

Rated speed rpm : 1353
guide sleeve
travel mm : 8.64
Tolerance mm : ± 0.25

Rated speed rpm : 885
guide sleeve
travel mm : 5.01
Tolerance mm : ± 0.25

Rated speed rpm : 355
guide sleeve
travel mm : 1.96
Tolerance mm : ± 0.25

Rated speed rpm : 405
guide sleeve
travel mm : 2.40
Tolerance mm : ± 0.25

Rated speed rpm : 490
guide sleeve
travel mm : 2.86
Tolerance mm : ± 0.25

Rated speed rpm : 1610
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1350

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : 700

Del. quantity
cm³/1000 strokes : 65.0
Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0
Speed

Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 112.0
tolerance degree : ± 4.0

rack travel mm : 8.05
Rated speed rpm : 1345
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1420
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 80.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.20
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : $>$ 7.50

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 9.05
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 9.85
Tolerance mm : \pm 0.05

Rated speed rpm : 1100
rack travel mm : 9.35
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 9.85
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.90
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 290
rack travel mm : 9.50
Tolerance mm : \pm 0.15

Pressure hPa : 250
rack travel mm : 9.20
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $<$ 220
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 65.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 38.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 8.05
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 115.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5

Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.11.94
Test oil : ISO 4113

Combination No. : 0400074889

Injection pump
Pump designation : PES4M55C320RS172
EP type number : 0410054958

Governor
Governor design. : RSF375/2300M75-2
Governor no. : 0420021166

Cust. part No. :

Customer-spec. information
Customer : MB-PKW
Motor : OM601-Mopf II
Power KW : 53.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1469990351

Inlet press. bar : 1.0

Test nozzle holder
assembly : 1688901111

Opening pressure
bar : 148.5
Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

H03

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 1.75
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00
Tolerance mm : ± 1.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1

°NW after s.o.d. : 17.0
Tolerance : ± 0.20
Check
tolerance °NW : ± 0.30

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 12.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 33.5

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 1.5

Spreed	
Tolerance	
cm3/1000 strokes	: 2.5
Check tolerance	
cm3/1000S.	: 3.0
2nd speed rpm	: 375
Rack travel in mm	: 6.50
Tolerance mm	: + 0.10
Del. quantity	
cm3/1000 strokes	: 6.5
Tolerance	
cm3/1000 strokes	: + 0.5
Spreed	
Tolerance	
cm3/1000 strokes	: 1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

IDLE STAGE

Rack travel in mm	: 6.50
Tolerance mm	: + 0.10

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 900
Ref. pressure	
ALDA / ADA hPa	: 1100
Del. quantity	
cm3/1000 strokes	: 33.5
Tolerance	
cm3/1000 strokes	: + 0.5
Check tolerance	
cm3/1000S.	: + 1.5
Spreed	
Tolerance	
cm3/1000 strokes	: 2.5
Check tolerance	
cm3/1000S.	: 3.0

RATED SPEED

control lever	
position degree	: 50.0
rack travel mm	: 8.40
Rated speed rpm	: 2500

rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 2950

SET IDLE CONTROL LEVER POSITION

Rated speed rpm	: 900
CRT mm max.	: 1.45

LOW IDLE

control lever	
position degree	: 14.0
tolerance degree	: + 2.0

Setting point w/out bumper spring	
Rated speed rpm	: 375
rack travel mm	: 6.50

SET IDLE AUXILIARY SPRING

Rated speed rpm	: 450
rack travel mm	: 4.90
Tolerance mm	: + 0.10

rack travel mm	: 2.50
Rated speed rpm	: 670
Tolerance 1/min	: + 50

Load pick-up

Rated speed rpm	: 250
CRT mm min.	: > 11.00
Rated speed rpm	: 900
CRT mm max.	: 1.45
rack travel mm	: 6.50
Rated speed rpm	: 375

TORQUE CONTROL

Rated speed rpm	: 900
rack travel mm	: 12.35
Tolerance mm	: + 0.05

Rated speed rpm	: 1400
rack travel mm	: 12.05
Tolerance mm	: + 0.10

Rated speed rpm	: 2300
rack travel mm	: 11.40

Tolerance mm : \pm 0.10

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 900
Ref. pressure
ALDA / ADA hPa : 950
rack travel mm : -0.10
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 900
Ref. pressure
ALDA / ADA hPa : 900
rack travel mm : -0.60
Tolerance mm : \pm 0.10

Rated speed rpm : 900
Ref. pressure
ALDA / ADA hPa : 750
rack travel mm : -2.00
Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 1400
Del. quantity
cm³/1000 strokes : 33.8
Tolerance
cm³/1000 strokes : \pm 0.8
Check tolerance
cm³/1000S. : \pm 1.8
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 2300
Spreed
Del. quantity
cm³/1000 strokes : 35.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

HIGH IDLE

Rated speed rpm : 2500
rack travel mm : 8.40
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 3.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.10
Del. quantity
cm³/1000 strokes : 52.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 375
rack travel mm : 6.50
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 7.8
Check tolerance
cm³/1000S. : \pm 2.3
Spreed
Check tolerance
cm³/1000S. : 1.5

CHECKING THE IDLE-SPEED AUXILIARY

degree : $>$ 49.00
degree : $<$ 46.50

SETTING PNEUMATIC FAST IDLE (ELA)
(PLA) POSITION

control lever
position degree : VWL
Rated speed rpm : 425

Rack travel in mm : 8.90
Tolerance mm : \pm 0.80
Vacuum hPa : 400.0
Vacuum hPa : -

SETTING/TESTING ELECTRONIC IDLE
REGULATION (ELR)

control lever
position degree : 14.0
tolerance degree : \pm 2.0

control lever
position degree : 50.0

Adjustment of the control-rod travel
sensor

control lever
position degree : 50.0

ADJUST ACTIVE SURGE DAMPING ARD

Rated speed rpm : 900
rack travel mm : -1.70
Tolerance mm : \pm 0.15

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.11.94
Test oil : ISO 4113
Combination No. : 0400074891
Injection pump
Pump designation : PES4M55C320RS169
EP type number : 0410054959
Governor
Governor design. : RSF375/2300M75
Governor no. : 0420021160

Cust. part No. :

Customer spec. information
Customer : MB-PKW
Motor : OM601-ECE
Power KW : 55.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1469990351
Inlet press. bar : 1.0
Test nozzle holde
assembly : 1688901111
Opening pressure
bar : 148.5
Tolerance bar : ± 1.5
Test lines : 1680750014
Outside diameter : 6.0
x inside diameter : 2.0

H07

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 2.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00
Tolerance mm : ± 1.00

Firing order : 1-3- 4- 2

Phasing : 0-90-180-270

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1
°NW after s.o.d. : 19.5
Tolerance : ± 0.20
Check
tolerance °NW : ± 0.30

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 33.5

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 1.5

Spreed	
Tolerance	
cm3/1000 strokes :	2.5
Check tolerance	
cm3/1000S. :	3.0
2nd speed rpm :	375
Rack travel in mm :	6.50
Tolerance mm :	+ 0.10
Del. quantity	
cm3/1000 strokes :	6.5
Tolerance	
cm3/1000 strokes :	+ 0.5
Spreed	
Tolerance	
cm3/1000 strokes :	1.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

IDLE STAGE

Rack travel in mm :	6.50
Tolerance mm :	+ 0.10

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1000
Ref. pressure	
ALDA / ADA hPa :	1100
Del. quantity	
cm3/1000 strokes :	33.5
Tolerance	
cm3/1000 strokes :	+ 0.5
Check tolerance	
cm3/1000S. :	+ 1.5
Spreed	
Tolerance	
cm3/1000 strokes :	2.5
Check tolerance	
cm3/1000S. :	3.0

RATED SPEED

control lever	
position degree :	50.0
rack travel mm :	8.70
Rated speed rpm :	2500

rack travel mm :	0.50
Tolerance mm :	+ 0.50
Rated speed rpm :	2950

SET IDLE CONTROL LEVER POSITION

Rated speed rpm :	1000
CRT mm max. :	1.25

LOW IDLE

control lever	
position degree :	14.0
tolerance degree :	+ 2.0

Setting point w/out bumper spring	
Rated speed rpm :	375
rack travel mm :	6.50

SET IDLE AUXILIARY SPRING

Rated speed rpm :	400
rack travel mm :	5.40
Tolerance mm :	+ 0.10

rack travel mm :	2.00
Rated speed rpm :	710
Tolerance 1/min :	+ 50

Load pick-up

Rated speed rpm :	250
CRT mm min. :	> 11.00

Rated speed rpm :	1000
CRT mm max. :	1.25

rack travel mm :	6.50
Rated speed rpm :	375

TORQUE CONTROL

Rated speed rpm :	1000
rack travel mm :	12.35
Tolerance mm :	+ 0.05

Rated speed rpm :	1800
rack travel mm :	11.80
Tolerance mm :	+ 0.10

Rated speed rpm :	2300
rack travel mm :	11.50

Tolerance mm : \pm 0.10

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 950
rack travel mm : -0.10
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 900
rack travel mm : -0.60
Tolerance mm : \pm 0.10

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : 750
rack travel mm : -2.00
Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 1800
Del. quantity
cm³/1000 strokes : 33.8
Tolerance
cm³/1000 strokes : \pm 0.8
Check tolerance
cm³/1000S. : \pm 1.8
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 2300
Spreed
Del. quantity
cm³/1000 strokes : 35.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

HIGH IDLE

Rated speed rpm : 2500
rack travel mm : 8.70
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 3.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.10
Del. quantity
cm³/1000 strokes : 52.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 375
rack travel mm : 6.50
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 7.8
Check tolerance
cm³/1000S. : \pm 2.3
Spreed
Check tolerance
cm³/1000S. : 1.5

CHECKING THE IDLE-SPEED AUXILIARY

degree : > 49.00
degree : < 46.50

SETTING PNEUMATIC FAST IDLE (ELA)
(PLA) POSITION

control lever
position degree : VWL
Rated speed rpm : 425

Rack travel in mm : 8.90
Tolerance mm : \pm 0.80
Vacuum hPa : 400.0
Vacuum hPa : -

SETTING/TESTING ELECTRONIC IDLE
REGULATION (ELR)

control lever
position degree : 14.0
tolerance degree : \pm 2.0

control lever
position degree : 50.0

Adjustment of the control-rod travel
sensor

control lever
position degree : 50.0

ADJUST ACTIVE SURGE DAMPING ARD

Rated speed rpm : 1000

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.09.94
Test oil : ISO 4113

Combination No. : 0400074898T8

Injection pump
Pump designation : PES4M55C320RS172
EP type number :

Governor
Governor design. : RSF375/2300M56-10
Governor no. :

Cust. part No. : T8

Customer-spec. information
Customer : MB-PKW
Motor : OM601-Abgl. MJ90
Power KW : 53.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1469990351

Inlet press. bar : 1.0

Test nozzle holde
assembly : 1688901111

Opening pressure
bar : 148.5
Tolerance bar : + 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

H11

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 1.75
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 21.00
Tolerance mm : + 1.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1

°NW after s.o.d. : 17.0
Tolerance : + 0.20
Check
tolerance °NW : + 0.30

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 12.35
Tolerance mm : + 0.05

Del. quantity
cm3/1000 strokes : 33.5

Tolerance
cm3/1000 strokes : + 0.5

Check tolerance
cm3/1000S. : + 1.5

Spreed

Tolerance

cm³/1000 strokes : 2.5

Check tolerance

cm³/1000S. : 3.0

2nd speed rpm : 375

Rack travel in mm : 6.50

Tolerance mm : ± 0.10

Del. quantity

cm³/1000 strokes : 6.5

Tolerance

cm³/1000 strokes : ± 0.5

Spreed

Tolerance

cm³/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

IDLE STAGE

Rack travel in mm : 6.50

Tolerance mm : ± 0.10

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900

Ref. pressure

ALDA / ADA hPa : 1100

Del. quantity

cm³/1000 strokes : 33.5

Tolerance

cm³/1000 strokes : ± 0.5

Check tolerance

cm³/1000S. : ± 1.5

Spreed

Tolerance

cm³/1000 strokes : 2.5

Check tolerance

cm³/1000S. : 3.0

RATED SPEED

control lever

position degree : 50.0

rack travel mm : 8.50

Rated speed rpm : 2500

rack travel mm : 0.50

Tolerance mm : ± 0.50

Rated speed rpm : 2950

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 900

CRT mm max. : 1.45

LOW IDLE

control lever

position degree : 14.0

tolerance degree : ± 2.0

Setting point w/out bumper spring

Rated speed rpm : 375

rack travel mm : 6.50

SET IDLE AUXILIARY SPRING

Rated speed rpm : 450

rack travel mm : 4.90

Tolerance mm : ± 0.10

rack travel mm : 2.50

Rated speed rpm : 670

Tolerance 1/min : ± 50

Load pick-up

Rated speed rpm : 250

CRT mm min. : > 11.00

Rated speed rpm : 900

CRT mm max. : 1.45

rack travel mm : 6.50

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 900

rack travel mm : 12.35

Tolerance mm : ± 0.05

Rated speed rpm : 1400

rack travel mm : 12.05

Tolerance mm : ± 0.10

Rated speed rpm : 2300

rack travel mm : 11.40

Tolerance mm : \pm 0.10

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 900
Ref. pressure
ALDA / ADA hPa : 950
rack travel mm : -0.10
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 900
Ref. pressure
ALDA / ADA hPa : 900
rack travel mm : -0.60
Tolerance mm : \pm 0.10

Rated speed rpm : 900
Ref. pressure
ALDA / ADA hPa : 750
rack travel mm : -2.00
Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 1400
Del. quantity
cm³/1000 strokes : 33.8
Tolerance
cm³/1000 strokes : \pm 0.8
Check tolerance
cm³/1000S. : \pm 1.8
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 2300
Spreed
Del. quantity
cm³/1000 strokes : 35.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

HIGH IDLE

Rated speed rpm : 2500
rack travel mm : 8.50
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 3.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.10
Del. quantity
cm³/1000 strokes : 52.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 375
rack travel mm : 6.50
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 7.8
Check tolerance
cm³/1000S. : \pm 2.3
Spreed
Check tolerance
cm³/1000S. : 1.5

CHECKING THE IDLE-SPEED AUXILIARY

degree : > 49.00

degree : < 46.50

SETTING PNEUMATIC FAST IDLE (ELA)
(PLA) POSITION

control lever
position degree : VWL
Rated speed rpm : 425

Rack travel in mm : 8.90
Tolerance mm : \pm 0.80
Vacuum hPa : 400.0
Vacuum hPa : -

SETTING/TESTING ELECTRONIC IDLE
REGULATION (ELR)

control lever
position degree : 14.0
tolerance degree : \pm 2.0

control lever
position degree : 50.0

Adjustment of the control-rod travel
sensor

control lever
position degree : 50.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.11.94

Test oil : ISO 4113

Combination No. : 0402640844

Injection pump

Pump designation : PE12P120A520LS7879

EP type number : 0412620841

Governor

Governer design. : RQV350...1200PA1167

Governer no. : 0421814107

Cust. part No. : 0250742402

Customer-spec. information

Customer : MTU

Motor : 12V183-03

Power KW : 845.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. l/h : 150
Tolerance l/h : + 10.0

Test nozzle holde assembly

: 1688901105

Opening pressure bar

: 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

H15

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 4.05
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 0.50

Firing order : 12- 1- 5- 9- 8
: - 3- 4- 11- 10
: - 2- 6- 7

Phasing : 0-45-60-105-120
: -165-180-225-240
: -285-300-345

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 12

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 12.70
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 306.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

2nd speed rpm : 350

Rack travel in mm : 4.00
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 10.0

Check tolerance
cm³/1000S. : 15.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.53
Tolerance mm : \pm 0.15

Rated speed rpm : 1281
guide sleeve
travel mm : 8.53
Tolerance mm : \pm 0.20

Rated speed rpm : 990
guide sleeve
travel mm : 5.68
Tolerance mm : \pm 0.25

Rated speed rpm : 420

guide sleeve
travel mm : 2.86
Tolerance mm : \pm 0.25

Rated speed rpm : 470
guide sleeve
travel mm : 3.42
Tolerance mm : \pm 0.25

Rated speed rpm : 620
guide sleeve
travel mm : 3.89
Tolerance mm : \pm 0.25

Rated speed rpm : 1366
guide sleeve
travel mm : 10.00
Tolerance mm : \pm 0.25

Rated speed rpm : 1470
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1310

Rack travel in mm : 12.00
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
Aneroid pressure
hPa : 2000
Del. quantity
cm³/1000 strokes : 306.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

RATED SPEED

control lever
position degree : 122.0
tolerance degree : \pm 4.0

rack travel mm : 11.70
Rated speed rpm : 1245
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1330
Tolerance 1/min : + 15

rack travel mm : 0.75
Tolerance mm : + 0.75
Rated speed rpm : 1470

LOW IDLE

control lever
position degree : 68.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 4.00
Tolerance mm : + 0.10

Rated speed rpm : 250
CRT mm min. : > 6.30

Rated speed rpm : 450

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 12.70
Tolerance mm : + 0.10

Rated speed rpm : 600
rack travel mm : 9.50
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 600
rack travel mm : 5.80
Tolerance mm : + 0.15

Pressure hPa : 400
rack travel mm : 7.70
Tolerance mm : + 0.05

Pressure hPa : 250
rack travel mm : 6.80
Tolerance mm : + 0.10

Pressure hPa : 1600
rack travel mm : 11.70
Tolerance mm : + 0.05

Pressure hPa : 1200
rack travel mm : 10.15
Tolerance mm : + 0.10

START CUT-OUT

Rated speed rpm : < 270
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 800
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 261.0
Tolerance
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000S. : + 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 118.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Speed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 15.0

BREAKAWAY

Rack travel in mm : 11.70
Rated speed rpm : 1245
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 360.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 4.00
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 15.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.94
Test oil : ISO 4113
Combination No. : 0402646792
Injection pump
Pump designation : PE6P120A320LS7854
EP type number : 0412626872
Governor
Governor design. : RQV350...1050PA1051
Governor no. : 0421814036

Cust. part No. : 0230746202

Customer spec. information
Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 115
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 13.35
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 235.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 350

Rack travel in mm : 4.80
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.22
Tolerance mm : \pm 0.10

Rated speed rpm : 1108
guide sleeve
travel mm : 9.64
Tolerance mm : \pm 0.10

Rated speed rpm : 403
guide sleeve
travel mm : 1.97
Tolerance mm : \pm 0.25

Rated speed rpm : 453

guide sleeve
travel mm : 2.52
Tolerance mm : \pm 0.25

Rated speed rpm : 770
guide sleeve
travel mm : 4.92
Tolerance mm : \pm 0.25

Rated speed rpm : 1320
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1160

Rack travel in mm : 14.00
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 235.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 105.0
tolerance degree : \pm 4.0

rack travel mm : 12.10
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1170
Tolerance 1/min : \pm 15

rack travel mm : 0.50

Tolerance mm : + 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 69.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 4.80
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 410
Tolerance 1/min : + 20

Rated speed rpm : 250

CRT mm min. : > 8.50

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 13.35
Tolerance mm : + 0.05

Rated speed rpm : 1050
rack travel mm : 13.20
Tolerance mm : + 0.10

Rated speed rpm : 1050
rack travel mm : 10.70
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : -

MEASUREMENT

Pressure hPa : 275
Rated speed rpm : 500
rack travel mm : 0.85
Tolerance mm : + 0.05

Rated speed rpm : 500

H21

Pressure hPa : 580
rack travel mm : 2.50
Tolerance mm : + 0.10

START CUT-OUT

Rated speed rpm : < 270
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 225.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 169.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 131.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.10

Rated speed rpm : 1095
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 250.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 4.80
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.94
Test oil : ISO 4113

Combination No. : 0402646993

Injection pump
Pump designation : PE6P120A320LS7852-1
EP type number : 0412626910

Governor
Governor design. : RQ300/1050PA1030-18
Governor no. : 0421801746

Cust. part No. : 0230744502

Customer-spec. information
Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 14.40
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 248.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.90
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.66
Tolerance mm : ± 0.10

Rated speed rpm : 1109
guide sleeve
travel mm : 6.36
Tolerance mm : ± 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 401
guide sleeve
travel mm : 4.01
Tolerance mm : ± 0.10

Rated speed rpm : 510

guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 1280
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure
hPa : 1100

Del. quantity
cm³/1000 strokes : 248.0
Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 97.0
tolerance degree : ± 4.0

rack travel mm : 13.40
Rated speed rpm : 1103
Tolerance 1/min : ± 8

rack travel mm : 4.00
Rated speed rpm : 1195
Tolerance 1/min : ± 15

rack travel mm : 0.75
Tolerance mm : ± 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 73.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 8.30

TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 14.40
Tolerance mm : + 0.05

Rated speed rpm : 1050
rack travel mm : 14.40
Tolerance mm : + 0.10

Rated speed rpm : 400
rack travel mm : 13.60
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1100
rack travel mm : 14.05
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.35
Tolerance mm : + 0.20

Rated speed rpm : 400

Pressure hPa : 550
rack travel mm : 13.60
Tolerance mm : + 0.10

Pressure hPa : 250

rack travel mm : 11.45
Tolerance mm : + 0.10

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1100
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 240.0
Tolerance

cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 208.5
Tolerance
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000S. : + 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1103
Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.94
Test oil : ISO 4113
Combination No. : 0402646996
Injection pump
Pump designation : PE6P120A320LS7852
EP type number : 0412626871
Governor
Governor design. : RQ300/1050PA1031-4
Governor no. : 0421801656

Cust. part No. : 0230744702

Customer-spec. information
Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

H27

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 14.40
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 248.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.90
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.13
Tolerance mm : \pm 0.10

Rated speed rpm : 1095
guide sleeve
travel mm : 6.55
Tolerance mm : \pm 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.20
Tolerance mm : \pm 0.10

Rated speed rpm : 913

guide sleeve
travel mm : 6.05
Tolerance mm : \pm 0.10

Rated speed rpm : 413
guide sleeve
travel mm : 4.85
Tolerance mm : \pm 0.10

Rated speed rpm : 500
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1270
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

Rated speed rpm : 945
guide sleeve
travel mm : 6.15
Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure
hPa : 1100
Del. quantity
cm³/1000 strokes : 248.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 99.0
tolerance degree : \pm 4.0

rack travel mm : 13.40
Rated speed rpm : 1098

Tolerance 1/min	: +	8
rack travel mm	:	4.00
Rated speed rpm	:	1195
Tolerance 1/min	: +	15
rack travel mm	:	0.75
Tolerance mm	: +	0.75
Rated speed rpm	:	1300

LOW IDLE

control lever		
position degree	:	71.0
tolerance degree	: +	4.0

Testing:

Rated speed rpm	:	300
rack travel mm	:	3.50
Tolerance mm	: +	0.10

rack travel mm	:	2.00
Rated speed rpm	:	340
Tolerance 1/min	: +	20

Rated speed rpm	:	200
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CRT mm min.	: >	5.70
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TORQUE CONTROL

Rated speed rpm	:	600
rack travel mm	:	14.40
Tolerance mm	: +	0.05

Rated speed rpm	:	1050
rack travel mm	:	14.40
Tolerance mm	: +	0.10

Rated speed rpm	:	400
rack travel mm	:	13.60
Tolerance mm	: +	0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	400
Pressure hPa	:	1100
rack travel mm	:	14.05
Tolerance mm	: +	0.05

MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	400
rack travel mm	:	10.35
Tolerance mm	: +	0.20

Rated speed rpm	:	400
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Pressure hPa	:	550
rack travel mm	:	13.60
Tolerance mm	: +	0.10

Pressure hPa	:	250
rack travel mm	:	11.45
Tolerance mm	: +	0.10

START CUT-OUT

Rated speed rpm	: <	220
Check		
speed 1/min	: <	240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	1100
Rated speed rpm	:	1050
Del. quantity		
cm ³ /1000 strokes	:	240.0
Tolerance		

cm ³ /1000 strokes	: +	2.0
Check tolerance		
cm ³ /1000S.	: +	5.0

Spread		
Tolerance		
cm ³ /1000 strokes	:	8.0
Check tolerance		
cm ³ /1000S.	:	12.0

Aneroid pressure		
hPa	:	550
Rated speed rpm	:	400
Del. quantity		
cm ³ /1000 strokes	:	208.5
Tolerance		
cm ³ /1000 strokes	: +	1.5
Check tolerance		
cm ³ /1000S.	: +	4.5

Aneroid pressure		
hPa	:	-
Rated speed rpm	:	500
Del. quantity		
cm ³ /1000 strokes	:	136.0
Tolerance		
cm ³ /1000 strokes	: +	1.0
Check tolerance		
cm ³ /1000S.	: +	4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1098
Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000S. : + 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : + 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.94
Test oil : ISO 4113

Combination No. : 0402646998

Injection pump
Pump designation : PE6P120A320LS7852
EP type number : 0412626871

Governor
Governor design. : RQV300...1050PA1033
 : -6
Governor no. : 0421814009

Cust. part No. : 0230744602

Customer spec. information
Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
 : 1-

Phasing : 0-60-120-180-240
 : -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 14.40
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 248.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.90
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spreed
Tolerance

cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1170

Rack travel in mm : 13.00
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure
hPa : 1100
Del. quantity
cm³/1000 strokes : 248.0

J04

Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 120.0
tolerance degree : \pm 4.0

rack travel mm : 13.40
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1180
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 82.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : \pm 0.10

Rated speed rpm : 200

CRT mm min. : $>$ 8.70

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 14.40
Tolerance mm : \pm 0.05

Rated speed rpm : 1050
rack travel mm : 14.40
Tolerance mm : \pm 0.10

Rated speed rpm : 400
rack travel mm : 13.60
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1100
rack travel mm : 14.05
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.35
Tolerance mm : \pm 0.20

Rated speed rpm : 400

Pressure hPa : 550
rack travel mm : 13.60
Tolerance mm : \pm 0.10

Pressure hPa : 250
rack travel mm : 11.45
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : < 240
Check
speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1100
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 240.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 208.5
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.11.94
Test oil : ISO 4113
Combination No. : 0403244038
Injection pump
Pump designation : PES4MW100/720RS1519
: -3
EP type number : 0413204018
Governor
Governor design. : RQV300...1200MW132
: -7
Governor no. : 0420083312
Cust. part No. : 0250748302

Customer spec. information
Customer : MB-NFZ
Motor : OM364LA
Power KW : 77.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750089
Outside diameter : 8.0

J10

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.55
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 21.00
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1200
Rack travel in mm : 11.50
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
 cm³/1000S. : 6.0
 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 0.92
 Tolerance mm : + 0.25

Rated speed rpm : 1255
 guide sleeve
 travel mm : 7.93
 Tolerance mm : + 0.25

Rated speed rpm : 671
 guide sleeve
 travel mm : 3.58
 Tolerance mm : + 0.25

Rated speed rpm : 721
 guide sleeve
 travel mm : 4.06
 Tolerance mm : + 0.25

Rated speed rpm : 970
 guide sleeve
 travel mm : 5.51
 Tolerance mm : + 0.25

Rated speed rpm : 1690
 guide sleeve
 travel mm : 13.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1450

Rack travel in mm : 11.00
 Tolerance mm : + 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
 Aneroid pressure
 hPa : 700
 Del. quantity
 cm³/1000 strokes : 95.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 6.0

RATED SPEED

control lever
 position degree : 112.0
 tolerance degree : + 4.0

rack travel mm : 10.50
 Rated speed rpm : 1245
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1365
 Tolerance 1/min : + 15

rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1450

LOW IDLE

control lever
 position degree : 70.0
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 4.00
 Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm min. : > 4.50

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 11.50
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 11.50
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 11.50
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.70
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 290
rack travel mm : 11.25
Tolerance mm : \pm 0.10

Pressure hPa : 250
rack travel mm : 11.00
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : < 200
Check
speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 86.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 66.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.50
Rated speed rpm : 1245
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.11.94
Test oil : ISO 4113
Combination No. : 0403244042
Injection pump
Pump designation : PES4MW100/720RS1519
: -2
EP type number : 0413204017
Governor
Governor design. : RQV300...1300MW144
Governor no. : 0420083316
Cust. part No. : 0250745202

Customer spec. information
Customer : MB-NFZ
Motor : OM364LA
Power KW : 103.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 13.90
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 126.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 0.91
Tolerance mm : ± 0.25

Rated speed rpm : 1355
guide sleeve
travel mm : 7.78
Tolerance mm : ± 0.25

Rated speed rpm : 1140
guide sleeve
travel mm : 5.88
Tolerance mm : ± 0.25

Rated speed rpm : 629
guide sleeve
travel mm : 3.15
Tolerance mm : ± 0.25

Rated speed rpm : 679
guide sleeve
travel mm : 3.53
Tolerance mm : ± 0.25

Rated speed rpm : 800
guide sleeve
travel mm : 4.00
Tolerance mm : ± 0.25

Rated speed rpm : 1596
guide sleeve
travel mm : 12.00
Tolerance mm : ± 0.25

Rated speed rpm : 1690

guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1480

Rack travel in mm : 13.00
Tolerance mm : ± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 126.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 116.0
tolerance degree : ± 4.0

rack travel mm : 12.90
Rated speed rpm : 1345
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1460
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 71.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.90
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : $>$ 4.50

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 13.90
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 13.90
Tolerance mm : \pm 0.10

Rated speed rpm : 600
rack travel mm : 13.90
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1400
rack travel mm : 13.90
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.10
Tolerance mm : \pm 0.10

Rated speed rpm : 500
Pressure hPa : 600
rack travel mm : 13.10
Tolerance mm : \pm 0.10

Pressure hPa : 350
rack travel mm : 11.60
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $<$ 250

Check
speed 1/min : $<$ 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 124.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 126.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 67.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 12.90
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.11.94
Test oil : ISO 4113
Combination No. : 0403246040
Injection pump
Pump designation : PES6MM100/720RS1517
: -2
EP type number : 0413206019
Governor
Governor design. : RQV300...1300MW146
Governor no. : 0420083318
Cust. part No. : 0250745302

Customer-spec. information

Customer : MB-NFZ
Motor : OM366LA
Power KW : 177.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1680750089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0
Prestroke mm : 4.55
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 21.00
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 14.40
Tolerance mm : + 0.05
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.02
Tolerance mm : ± 0.25

Rated speed rpm : 1354
guide sleeve
travel mm : 6.72
Tolerance mm : ± 0.25

Rated speed rpm : 1090
guide sleeve
travel mm : 4.70
Tolerance mm : ± 0.25

Rated speed rpm : 490
guide sleeve
travel mm : 2.25
Tolerance mm : ± 0.25

Rated speed rpm : 540
guide sleeve
travel mm : 2.54
Tolerance mm : ± 0.25

Rated speed rpm : 690
guide sleeve
travel mm : 2.97
Tolerance mm : ± 0.25

Rated speed rpm : 1683
guide sleeve
travel mm : 12.00
Tolerance mm : ± 0.25

Rated speed rpm : 1780
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1570

Rack travel in mm : 13.50
Tolerance mm : ± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 110.0
tolerance degree : ± 4.0

rack travel mm : 13.40
Rated speed rpm : 1345
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1495
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1600

LOW IDLE

control lever
position degree : 63.0

tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.00
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : $>$ 5.00

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 14.40
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 14.40
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 14.40
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.40
Tolerance mm : \pm 0.05

Rated speed rpm : 500

Pressure hPa : 800
rack travel mm : 13.70
Tolerance mm : \pm 0.10

Pressure hPa : 450
rack travel mm : 11.30
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $<$ 200
Check
speed 1/min : $<$ 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 132.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 46.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5

Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000s. : 5.5



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.04.93
Test oil : ISO 4113

Combination No. : 0402646969

Injection pump
Pump designation : PE6P120A320RS7248Z
EP type number : 0412626862

Governor
Governor design. : RQV275...1150PA986
Governor no. : 0421813920

Cust. part No. : 1248041

Customer-spec. information
Customer : DAF
Motor : RS 200 L
Power KW : 200.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 130
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089

J21

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 11.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 167.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 275

Rack travel in mm : 5.30
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 16.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1335

Rack travel in mm : 10.30
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Del. quantity
cm³/1000 strokes : 167.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 120.0
tolerance degree : ± 4.0

rack travel mm : 10.30
Rated speed rpm : 1185
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1290
Tolerance 1/min : ± 15

rack travel mm : 0.70
Tolerance mm : ± 0.70
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 83.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 4.70
Tolerance mm : ± 0.10

Rated speed rpm : 175

CRT mm min. : > 6.70

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 340

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
rack travel mm : 11.35
Tolerance mm : ± 0.05

MEASUREMENT

Rated speed rpm : 600
rack travel mm : 9.20

Tolerance mm : \pm 0.10

Rated speed rpm : 600

rack travel mm : 9.70

Tolerance mm : \pm 0.10

rack travel mm : 10.75

Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Del. quantity

cm³/1000 strokes : 117.0

Tolerance

cm³/1000 strokes : \pm 1.0

Check tolerance

cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 10.30

Rated speed rpm : 1185

Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 275

rack travel mm : 5.30

Tolerance mm : \pm 0.10

Del. quantity

cm³/1000 strokes : 16.0

Tolerance

cm³/1000 strokes : \pm 3.0

Check tolerance

cm³/1000S. : \pm 6.0

Speed

Tolerance

cm³/1000 strokes : 8.0

Check tolerance

cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.93
Test oil : ISO 4113

Combination No. : 0402646984

Injection pump
Pump designation : PE6P120A320RS7248
EP type number : 0412626861

Governor
Governor design. : RQ275/1150PA987
Governor no. : 0421801578

Cust. part No. : 1248030

Customer-spec. information
Customer : DAF
Motor : RS 222 L
Power KW : 222.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 12.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 187.0

Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Speed	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0
2nd speed rpm	: 275
Rack travel in mm	: 5.40
Tolerance mm	: + 0.10
Del. quantity	
cm ³ /1000 strokes	: 16.0
Tolerance	
cm ³ /1000 strokes	: + 3.0
Check tolerance	
cm ³ /1000S.	: + 6.0
Speed	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 275
guide sleeve	
travel mm	: 1.78
Tolerance mm	: + 0.10
Rated speed rpm	: 1211
guide sleeve	
travel mm	: 6.48
Tolerance mm	: + 0.10
Rated speed rpm	: 1150
guide sleeve	
travel mm	: 6.00
Tolerance mm	: + 0.10
Rated speed rpm	: 350
guide sleeve	
travel mm	: 4.05
Tolerance mm	: + 0.10
Rated speed rpm	: 450
guide sleeve	
travel mm	: 6.00

Tolerance mm	: + 0.10
Rated speed rpm	: 1370
guide sleeve	
travel mm	: 11.50
Tolerance mm	: + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 550
Rack travel in mm	: 15.80
Tolerance mm	: + 0.60

FULL LOAD DELIVERY AT FULL LOAD STOP

Del. quantity	
cm ³ /1000 strokes	: 187.0
Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Speed	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 104.0
tolerance degree	: + 4.0
rack travel mm	: 11.20
Rated speed rpm	: 1208
Tolerance 1/min	: + 8
rack travel mm	: 4.00
Rated speed rpm	: 1290
Tolerance 1/min	: + 15
rack travel mm	: 0.70
Tolerance mm	: + 0.70
Rated speed rpm	: 1450

LOW IDLE

control lever	
position degree	: 74.0
tolerance degree	: + 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 4.70
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 340
Tolerance 1/min : \pm 20

Rated speed rpm : 175

CRT mm min. : $>$ 7.00

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
rack travel mm : 12.25
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 600
rack travel mm : 9.40
Tolerance mm : \pm 0.10

Rated speed rpm : 600

rack travel mm : 10.40
Tolerance mm : \pm 0.10

rack travel mm : 11.65
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Del. quantity
cm³/1000 strokes : 122.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.20
Rated speed rpm : 1208
Tolerance 1/min : \pm 8

LOW IDLE

Rated speed rpm : 275
rack travel mm : 5.40
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.06.93

Test oil : ISO 4113

Combination No. : 0402046851

Injection pump

Pump designation : PES6P120A320RS3290

: -1

EP type number : 0412026765

Governor

Governor design. : RQ300/1050PA999-5

Governor no. : 0421801663

Cust. part No. : CCEP 5137

Customer-spec. information

Customer : RVI

Motor : MIHR 062045 B3

Power KW : 152.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40

Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Overflow quantity

min. l/h : 155

Tolerance l/h : + 15.0

Test nozzle holde
assembly

: 1688901105

Opening pressure
bar

: 208.5

Tolerance bar : + 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0

Tolerance bar : + 1.0

Prestroke mm : 4.25

Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 18.00

Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.80
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 154.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 275

Rack travel in mm : -4.80
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 21.0

Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 5.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 1.89
Tolerance mm : \pm 0.10

Rated speed rpm : 1127
guide sleeve
travel mm : 6.36
Tolerance mm : \pm 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 469

guide sleeve
travel mm : 4.14
Tolerance mm : \pm 0.10

Rated speed rpm : 710
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1380
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1050

Rack travel in mm : 20.80
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Del. quantity
cm³/1000 strokes : 154.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

rack travel mm : -1.00
Rated speed rpm : 1120
Tolerance 1/min : \pm 5

rack travel mm : -8.80
Rated speed rpm : 1250
Tolerance 1/min : \pm 15

rack travel mm : -12.30
Tolerance mm : \pm 0.55
Rated speed rpm : 1350

LOW IDLE

Testing:

Rated speed rpm : 275
rack travel mm : -4.80

Tolerance mm : \pm 0.10
Rated speed rpm : 200
CRT mm max. : $<$ -6.80

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 700
Rated speed rpm : 1050
Tolerance mm : \pm 0.10
Rated speed rpm : 700
rack travel mm : -4.00
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500

MEASUREMENT

Rated speed rpm : 500
rack travel mm : -0.90
Tolerance mm : \pm 0.20
Rated speed rpm : 500
rack travel mm : -0.30
Tolerance mm : \pm 0.10
rack travel mm : -0.65
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 195
Check
speed 1/min : $<$ 215

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 1050

K01

Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 100.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0
Speed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 122.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1120
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : -4.80
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000s. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.10.93
Test oil : ISO 4113

Combination No. : 0402646627

Injection pump
Pump designation : PE6P120A320RS7297
EP type number : 0412626884

Governor
Governor design. : RQV350...1100PA795
 : -12
Governor no. : 0421813914

Cust. part No. : 1340653

Customer-spec. information
Customer : SCANIA
Motor : DSC 909

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 210
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1688901104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

K03

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.25
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 205.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

2nd speed rpm : 350

Rack travel in mm : 4.90
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 26.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spreed
Tolerance

cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1300

Rack travel in mm : 12.00
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Del. quantity
cm³/1000 strokes : 205.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed

K04

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 47.0
tolerance degree : \pm 4.0

control lever
position degree : 106.0
tolerance degree : \pm 4.0

rack travel mm : 12.20
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1270
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 74.0
tolerance degree : \pm 4.0

control lever
position degree : 15.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 4.90
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : \pm 30

Rated speed rpm : 250

CRT mm min. : $>$ 8.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.25

Tolerance mm : \pm 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

MEASUREMENT

rack travel mm : 11.95
Tolerance mm : \pm 0.25

rack travel mm : 12.85
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 183.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.20
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 4.90
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.10.93
Test oil : ISO 4113

Combination No. : 0402646793

Injection pump
Pump designation : PE6P120A320LS7846
EP type number : 0412626865

Governor
Governor design. : RQ300/1050PA1030-8
Governor no. : 0421801673

Cust. part No. : 0230749502

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 213.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

K06

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.35
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 202.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.70
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.58
Tolerance mm : \pm 0.10

Rated speed rpm : 1103
guide sleeve
travel mm : 6.37
Tolerance mm : \pm 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 394

guide sleeve
travel mm : 4.78
Tolerance mm : \pm 0.10

Rated speed rpm : 480
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1280
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 202.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 93.0
tolerance degree : \pm 4.0

rack travel mm : 11.35
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1180
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 380
Tolerance 1/min : \pm 20

Rated speed rpm : 200

CRT mm min. : $>$ 8.00

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 12.35
Tolerance mm : \pm 0.05

Rated speed rpm : 550
rack travel mm : 12.35
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
rack travel mm : 12.35
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 400
rack travel mm : 9.85
Tolerance mm : \pm 0.15

rack travel mm : 10.70
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 197.0

K08

Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.5

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 127.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.35
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.10
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 55.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70

Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.10.93
Test oil : ISO 4113

Combination No. : 0402735808

Injection pump
Pump designation : PES5P120A720/3LS7250
EP type number : 0412725809

Governor
Governor design. : RQV325...1000PA962
: -10K
Governor no. : 0421815363

Cust. part No. : 3-7294 AE1

Customer-spec. information

Customer : MAN
Motor : D2865 LUH 03
Power Kw : 235.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 120
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

K10

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.85
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 15.50
Tolerance mm : ± 0.50

Firing order : 1- 3- 5- 4- 2

Phasing : 0-72-144-216-288
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 5

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 12.45
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 261.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 325

Rack travel in mm : 5.40
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 50.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 10.0

Check tolerance
cm³/1000S. : 14.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
guide sleeve
travel mm : 3.02
Tolerance mm : ± 0.10

Rated speed rpm : 1055
guide sleeve
travel mm : 9.01
Tolerance mm : ± 0.10

Rated speed rpm : 800
guide sleeve
travel mm : 6.05
Tolerance mm : ± 0.20

Rated speed rpm : 500
guide sleeve
travel mm : 4.42
Tolerance mm : ± 0.20

Rated speed rpm : 1280
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1150

Rack travel in mm : 11.30
Tolerance mm : ± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 261.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 289.0
tolerance degree : ± 4.0

rack travel mm : 11.20
Rated speed rpm : 1045
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1130
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 245.0

tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 5.40
Tolerance mm : \pm 0.10

Rated speed rpm : 250

CRT mm min. : $>$ 6.90

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 12.45
Tolerance mm : \pm 0.05

Rated speed rpm : 1000
rack travel mm : 12.20
Tolerance mm : \pm 0.10

Rated speed rpm : 650
rack travel mm : 12.20
Tolerance mm : \pm 0.10

Rated speed rpm : 650
rack travel mm : 5.50
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 900
rack travel mm : 12.45
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 900
rack travel mm : 7.70
Tolerance mm : \pm 0.10

Rated speed rpm : 900

rack travel mm : 11.15
Tolerance mm : \pm 0.15

rack travel mm : 8.05
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $<$ 280

Check
speed 1/min : $<$ 300

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 247.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 273.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

Spread
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.20
Rated speed rpm : 1045
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.30
Tolerance mm : \pm 0.25
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 5.40
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 50.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.10.93
Test oil : ISO 4113

Combination No. : 0402736825

Injection pump
Pump designation : PES6P120A720/3LS7251
EP type number : 0412726860

Governor
Governor design. : RGV300...1000PA962
: -8K
Governor no. : 0421815303

Cust. part No. : 3-7206

Customer-spec. information
Customer : MAN
Motor : D2866LF09
Power KW : 309.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.85
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 15.50
Tolerance mm : ± 0.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 13.95

Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 296.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.20
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 32.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1130

Rack travel in mm : 12.40
Tolerance mm : \pm 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 296.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 291.0
tolerance degree : \pm 4.0

rack travel mm : 12.40
Rated speed rpm : 1045
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1140
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 247.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : \pm 0.10

Rated speed rpm : 200

CRT mm min. : $>$ 7.30

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 13.95
Tolerance mm : \pm 0.05

Rated speed rpm : 1000
rack travel mm : 13.50
Tolerance mm : \pm 0.10

Rated speed rpm : 750
rack travel mm : 13.40
Tolerance mm : \pm 0.10

Rated speed rpm : 750
rack travel mm : 6.50
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 900
rack travel mm : 13.95
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 900
rack travel mm : 9.10
Tolerance mm : \pm 0.10

Rated speed rpm : 900
rack travel mm : 12.00
Tolerance mm : \pm 0.20

rack travel mm : 9.45
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 240
Check
speed 1/min : $<$ 260

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 269.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 287.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Rated speed rpm : 750

Del. quantity
cm³/1000 strokes : 109.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0
Speed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 169.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.40
Rated speed rpm : 1045
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 32.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.93
Test oil : ISO 4113

Combination No. : 0402646619

Injection pump
Pump designation : PE6P120A720RS71880
EP type number : 0412626846

Governor
Governor design. : RQV200...950PA725
 : -11
Governor no. : 0421814033

Cust. part No. : 1340417

Customer-spec. information
Customer : SCANIA
Motor : DSC 11 35

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holde
assembly : 1688901104

Opening pressure
bar : 251.5
Tolerance bar : + 1.5

Test Lines : 1680750008

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

Check and set without ROBO diaphragam

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.75
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 220.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

2nd speed rpm : 250

Rack travel in mm : 4.70
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 17.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1150

Rack travel in mm : 9.50
Tolerance mm : ± 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 220.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 62.0
tolerance degree : ± 4.0

control lever
position degree : 116.0
tolerance degree : ± 4.0

rack travel mm : 11.70
Rated speed rpm : 995
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1110
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 64.0
tolerance degree : ± 4.0

control lever
position degree : 10.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : ± 30

Rated speed rpm : 150

CRT mm min. : > 6.00

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 12.75
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

MEASUREMENT

rack travel mm : 11.00
Tolerance mm : \pm 0.15

rack travel mm : 12.05
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 206.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 115.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.70
Rated speed rpm : 995
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.30
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.93
Test oil : ISO 4113
Combination No. : 0402646620
Injection pump
Pump designation : PE6P120A720RS7188
EP type number : 0412626832

Governor
Governor design. : RQV300...900PA795
Governor no. : 0421814058

Cust. part No. : 1337550

Customer spec. information
Customer : SCANIA
Motor : D 11

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1688901104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 236.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

2nd speed rpm : 300

Rack travel in mm : 4.80
Tolerance mm : ± 0.30

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1280

Rack travel in mm : 12.00
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 236.0

Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 47.0
tolerance degree : ± 4.0

control lever
position degree : 105.0

tolerance degree : ± 4.0

rack travel mm : 12.30
Rated speed rpm : 945
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1035
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1150

LOW IDLE

control lever
position degree : 73.0
tolerance degree : ± 4.0

control lever
position degree : 15.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.80
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 345
Tolerance 1/min : ± 30

Rated speed rpm : 200
CRT mm min. : > 7.50

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 13.35
Tolerance mm : ± 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

MEASUREMENT

rack travel mm : 11.00
Tolerance mm : ± 0.15

rack travel mm : 12.05
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 222.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 8.0

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 945
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.40
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 20.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.80
Tolerance mm : \pm 0.30

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.93
Test oil : ISO 4113

Combination No. : 0402646796

Injection pump
Pump designation : PE6P120A320LS7858
EP type number : 0412626875

Governor
Governor design. : RQ300/1050PA1030-5
Governor no. : 0421801665

Cust. part No. : 0230749302

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 200.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

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Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.75
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 190.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.20
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.59
Tolerance mm : \pm 0.10

Rated speed rpm : 1103
guide sleeve
travel mm : 6.38
Tolerance mm : \pm 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 399

guide sleeve
travel mm : 4.93
Tolerance mm : \pm 0.10

Rated speed rpm : 480
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1280
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Del. quantity
cm³/1000 strokes : 190.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 92.0
tolerance degree : \pm 4.0

rack travel mm : 10.75
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1175
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 380
Tolerance 1/min : \pm 20

Rated speed rpm : 200

CRT mm min. : $>$ 8.00

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 11.75
Tolerance mm : \pm 0.05

Rated speed rpm : 550
rack travel mm : 11.75
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
rack travel mm : 11.75
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 400
rack travel mm : 9.75
Tolerance mm : \pm 0.15
rack travel mm : 10.60
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 184.0

Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.5

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 127.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 10.75
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.80
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 55.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20

Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.11.93
Test oil : ISO 4113
Combination No. : 0402646875
Injection pump
Pump designation : PE6P120A72ORS7126Z
EP type number : 0412626830
Governor
Governor design. : RQ200/1000PA745-1
Governor no. : 0421801472

Cust. part No. : 1116164

Customer-spec. information
Customer : SCANIA
Motor : DSC 11 08

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1688901019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750015

Outside diameter : 6.0

x inside diameter : 1.5
x length mm : 600

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REMARKS

Check and set without ROBO diaphragam

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 205.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 225

Rack travel in mm : 4.80
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 16.50
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 205.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

L01

control lever
position degree : 44.0
tolerance degree : + 4.0

control lever
position degree : 99.0
tolerance degree : + 4.0

rack travel mm : 11.80
Rated speed rpm : 1045
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1195
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 62.0
tolerance degree : + 4.0

control lever
position degree : 8.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 225
rack travel mm : 4.80
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 330
Tolerance 1/min : + 20

Rated speed rpm : 125
CRT mm min. : > 5.80

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 12.85
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

MEASUREMENT

rack travel mm : 11.30
Tolerance mm : \pm 0.10

rack travel mm : 12.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 201.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 144.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.80
Rated speed rpm : 1045
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.50
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 225
rack travel mm : 4.80
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.11.93
Test oil : ISO 4113
Combination No. : 0402646937
Injection pump
Pump designation : PE6P120A720RS71880
EP type number : 0412626846
Governor
Governor design. : RQV200...950PA725-7
Governor no. : 0421813803

Cust. part No. : 1333121

Customer-spec. information
Customer : SCANIA
Motor : DSC11 21

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1688901104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0

L03

x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 220.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

2nd speed rpm : 250

Rack travel in mm : 4.70
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 16.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1150

Rack travel in mm : 9.50
Tolerance mm : + 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 220.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

RATED SPEED

L04

control lever
position degree : 112.0
tolerance degree : + 4.0

control lever
position degree : 60.0
tolerance degree : + 4.0

rack travel mm : 11.70
Rated speed rpm : 995
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1120
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 10.0
tolerance degree : + 4.0

control lever
position degree : 62.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : + 30

Rated speed rpm : 150

CRT mm min. : > 6.00

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 12.75
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

MEASUREMENT

rack travel mm : 11.00
Tolerance mm : \pm 0.15

rack travel mm : 12.05
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 206.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.70
Rated speed rpm : 995
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.50
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 165.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.93
Test oil : ISO 4113
Combination No. : 0402648932B
Injection pump
Pump designation : PE8P120A320LS7849
EP type number : 0412628864
Governor
Governor design. : RGV300...1050PA1034
Governor no. : 0421813993

Cust. part No. : 9274608

Customer-spec. information
Customer : LIEBHERR
Motor : D 9308 TI
Power KW : 360.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 8- 7- 2- 6
: - 3- 5- 4

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 14.55
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 264.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed

Tolerance
cm3/1000 strokes : 5.0

Check tolerance
cm3/1000S. : 9.0

2nd speed rpm : 400

Rack travel in mm : 5.80
Tolerance mm : \pm 0.20

Del. quantity
cm3/1000 strokes : 24.5

Tolerance
cm3/1000 strokes : \pm 3.0
Check tolerance
cm3/1000S. : \pm 6.0

Spread
Tolerance
cm3/1000 strokes : 6.0
Check tolerance
cm3/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.94
Tolerance mm : \pm 0.25

Rated speed rpm : 1118
guide sleeve
travel mm : 10.51
Tolerance mm : \pm 0.25

Rated speed rpm : 783
guide sleeve
travel mm : 6.60
Tolerance mm : \pm 0.25

Rated speed rpm : 356
guide sleeve
travel mm : 1.95
Tolerance mm : \pm 0.25

Rated speed rpm : 406
guide sleeve
travel mm : 2.67
Tolerance mm : \pm 0.25

Rated speed rpm : 490
guide sleeve
travel mm : 3.59
Tolerance mm : \pm 0.25

Rated speed rpm : 1320

guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1140

Rack travel in mm : 13.50
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
Del. quantity
cm3/1000 strokes : 264.0
Tolerance
cm3/1000 strokes : \pm 1.0
Check tolerance
cm3/1000S. : \pm 4.0

Spread
Tolerance
cm3/1000 strokes : 5.0
Check tolerance
cm3/1000S. : 9.0

RATED SPEED

control lever
position degree : 107.0
tolerance degree : \pm 4.0

rack travel mm : 13.50
Rated speed rpm : 945
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1085
Tolerance 1/min : \pm 15

rack travel mm : 0.70
Tolerance mm : \pm 0.70
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 81.0
tolerance degree : \pm 4.0

Testing:

rack travel mm : 2.00
Rated speed rpm : 460

Tolerance 1/min : + 30
Rated speed rpm : 300
CRT mm min. : > 8.50

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 385

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 14.55
Tolerance mm : + 0.05

Rated speed rpm : 500
rack travel mm : 14.55
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 550
rack travel mm : 14.55
Tolerance mm : + 0.05

MEASUREMENT

Rated speed rpm : 550
rack travel mm : 12.55
Tolerance mm : + 0.10
rack travel mm : 13.75
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 320
Check
speed 1/min : < 340

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 550
Del. quantity
cm3/1000 strokes : 220.5

Tolerance
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000S. : + 4.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.50
Rated speed rpm : 945
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm3/1000 strokes : 160.0
Tolerance
cm3/1000 strokes : + 10.0
Check tolerance
cm3/1000S. : + 14.0

LOW IDLE

Rated speed rpm : 400
rack travel mm : 5.80
Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 24.5
Tolerance
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000S. : + 6.0
Spreed
Tolerance
cm3/1000 strokes : 6.0
Check tolerance
cm3/1000S. : 10.0

Note remarks

Cust. part No. :

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Customer-spec. information
Customer      : KHD
Motor         : F4L912
Power KW      : 36.0
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Outside diameter : 6.0

BEGINNING OF DELIVERY

Check tolerance
cm³/1000S. : + 2.0

Spreed	
Tolerance	
cm3/1000 strokes :	2.5
Check tolerance	
cm3/1000S. :	4.0
2nd speed rpm :	325
Rack travel in mm :	5.50
Tolerance mm :	+ 0.10
Del. quantity	
cm3/1000 strokes :	11.0
Tolerance	
cm3/1000 strokes :	+ 3.0
Check tolerance	
cm3/1000S. :	+ 4.5
Spreed	
Tolerance	
cm3/1000 strokes :	2.0
Check tolerance	
cm3/1000S. :	3.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever	
position degree :	- 3
Rated speed rpm :	800
Rack travel in mm :	0.50
Tolerance mm :	+ 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1150
Aneroid pressure	
hPa :	-
Del. quantity	
cm3/1000 strokes :	44.0
Tolerance	
cm3/1000 strokes :	+ 0.5
Check tolerance	
cm3/1000S. :	+ 2.0
Spreed	
Tolerance	
cm3/1000 strokes :	2.5
Check tolerance	
cm3/1000S. :	4.0

RATED SPEED

L10

control lever	
position degree :	104.0
tolerance degree :	+ 4.0
rack travel mm :	9.60
Rated speed rpm :	1195
Tolerance 1/min :	+ 5
rack travel mm :	4.00
Rated speed rpm :	1235
Tolerance 1/min :	+ 15
rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	1350

LOW IDLE

control lever	
position degree :	72.0
tolerance degree :	+ 4.0

Setting point w/out bumper spring

Rated speed rpm :	325
rack travel mm :	5.00

Testing:

Rated speed rpm :	325
rack travel mm :	5.50
Tolerance mm :	+ 0.10
rack travel mm :	2.00
Rated speed rpm :	415
Tolerance 1/min :	+ 30

TORQUE CONTROL

Rated speed rpm :	500
rack travel mm :	11.60
Tolerance mm :	+ 0.10
Rated speed rpm :	850
rack travel mm :	11.35
Tolerance mm :	+ 0.15

BREAKAWAY

Rack travel in mm :	9.60
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Rated speed rpm : 1195
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 5.50
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 11.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 3.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 06.12.93

Test oil : ISO 4113

Combination No. : 0402736846

Injection pump

Pump designation : PES6P120A120RS7298

EP type number : 0412726899

Governor

Governer design. : RQV400...1250PA1081K

Governer no. : 0421815360

Cust. part No. : 3924903

Customer-spec. information

Customer : CDC

Motor : 68TA-A

Power KW : 156.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40

Tolerance °C : + 2.0

Overflow valve : 2417413086

Inlet press. bar : 1.5

Overflow quantity

min. L/h : 100

Tolerance L/h : + 10.0

Test nozzle holde assembly

: 1688901103

Opening pressure bar

: 208.5

Tolerance bar : + 1.5

Test Lines : 1680750015

Outside diameter : 6.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Prestroke mm : 3.60

Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 11.50

Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

S.o.d. blocking

Barrel no. : 1

Tolerance : + 0.50

Check
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.85

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes	: 173.5
<hr/>	
Tolerance cm3/1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm3/1000S.	: ± 4.0
<hr/>	
Spread Tolerance cm3/1000 strokes	: 8.0
<hr/>	
Check tolerance cm3/1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1250
Del. quantity cm3/1000 strokes	: 173.5
Tolerance cm3/1000 strokes	: ± 1.0
Check tolerance cm3/1000S.	: ± 4.0
Spread Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000S.	: 12.0

RATED SPEED

control lever position degree	: 118.0
tolerance degree	: ± 6.0
<hr/>	
rack travel mm	: 12.80
Rated speed rpm	: 1330
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1485
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1550

LOW IDLE

control lever position degree	: 72.0
tolerance degree	: ± 6.0

Testing:

Rated speed rpm	: 400
rack travel mm	: 6.20
Tolerance mm	: ± 0.20

Rated speed rpm	: 300
CRT mm min.	: > 8.90

CONTINUOUS-ACTION CONTROL

Rated speed rpm	: 420
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TORQUE CONTROL

Rated speed rpm	: 1250
rack travel mm	: 13.85
Tolerance mm	: ± 0.05

Rated speed rpm	: 800
rack travel mm	: 12.20
Tolerance mm	: ± 0.10

Rated speed rpm	: 500
rack travel mm	: 11.35
Tolerance mm	: ± 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm	: 1250
rack travel mm	: 13.85
Tolerance mm	: ± 0.05

MEASUREMENT

Rated speed rpm	: 1250
rack travel mm	: 9.70
Tolerance mm	: ± 0.20

Rated speed rpm	: 1250
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rack travel mm	: 12.80
Tolerance mm	: ± 0.20

rack travel mm	: 10.85
Tolerance mm	: ± 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 290
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 141.5
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 1250
Del. quantity
cm³/1000 strokes : 91.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 12.80
Rated speed rpm : 1330
Tolerance 1/min : ± 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.01.94
Test oil : ISO 4113
Combination No. : 0402646938
Injection pump
Pump designation : PE6P120A720RS71880
EP type number : 0412626846
Governor
Governor design. : RQ200/950PA745-3
Governor no. : 0421801579

Cust. part No. : 1334027

Customer-spec. information
Customer : SCANIA
Motor : DSC 11 21

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1688901104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0

L15

x length mm : 600

REMARKS

Check and set without ROBO diaphragm

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 220.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

2nd speed rpm : 250

Rack travel in mm : 4.70
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 16.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 16.50
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 220.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 44.0
tolerance degree : + 4.0

control lever
position degree : 99.0
tolerance degree : + 4.0

rack travel mm : 11.70
Rated speed rpm : 995
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1125
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 62.0
tolerance degree : + 4.0

control lever
position degree : 11.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 350
Tolerance 1/min : + 20

Rated speed rpm : 150

CRT mm min. : > 6.00

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 12.75
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
rack travel mm : 12.75
Tolerance mm : ± 0.05

MEASUREMENT

Rated speed rpm : 500
rack travel mm : 10.40
Tolerance mm : ± 0.20

Rated speed rpm : 500

rack travel mm : 11.00
Tolerance mm : ± 0.15

rack travel mm : 12.05
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 209.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 6.0

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.70
Rated speed rpm : 995
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.40
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 165.0
Tolerance
cm³/1000 strokes : ± 20.0

Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.03.94
Test oil : ISO 4113

Combination No. : 0402646970

Injection pump
Pump designation : PE6P120A320RS7248
: -10Y
EP type number : 0412626902

Governor
Governor design. : RQV275...1150PA986
Governor no. : 0421813920

Cust. part No. : 1248046/4

Customer spec. information
Customer : DAF
Motor : RS 180 L
Power Kw : 180.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 130
Tolerance l/h : + 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 10.75
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 147.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 275

Rack travel in mm : 5.40
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 1.44
Tolerance mm : ± 0.15

Rated speed rpm : 1206
guide sleeve
travel mm : 8.25
Tolerance mm : ± 0.20

Rated speed rpm : 799
guide sleeve
travel mm : 4.21
Tolerance mm : ± 0.25

Rated speed rpm : 315
guide sleeve
travel mm : 1.98
Tolerance mm : ± 0.25

Rated speed rpm : 365

guide sleeve
travel mm : 2.52
Tolerance mm : ± 0.25

Rated speed rpm : 450
guide sleeve
travel mm : 3.07
Tolerance mm : ± 0.25

Rated speed rpm : 1500
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1340

Rack travel in mm : 9.70
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Del. quantity
cm³/1000 strokes : 147.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 120.0
tolerance degree : ± 4.0

rack travel mm : 9.70
Rated speed rpm : 1182
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1280
Tolerance 1/min : ± 15

rack travel mm : 0.70
Tolerance mm : ± 0.70
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 83.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 4.70
Tolerance mm : \pm 0.10

Rated speed rpm : 175
CRT mm min. : $>$ 7.40

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 340

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 10.75
Tolerance mm : \pm 0.05

Rated speed rpm : 1150
rack travel mm : 10.70
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
rack travel mm : 10.75
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 600
rack travel mm : 10.35
Tolerance mm : \pm 0.05

Rated speed rpm : 600
rack travel mm : 9.50
Tolerance mm : \pm 0.10

rack travel mm : 9.90
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

L20

Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 121.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 9.70
Rated speed rpm : 1182
Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 275
rack travel mm : 5.40
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.03.94
Test oil : ISO 4113
Combination No. : 0402646991
Injection pump
Pump designation : PE6P120A320RS7218
: -10Y
EP type number : 0412626893
Governor
Governor design. : RQV275...1000PA939
: -2
Governor no. : 0421813986
Cust. part No. : 1247408

Customer-spec. information
Customer : DAF
Motor : WS 222 L
Power KW : 222.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.35
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 13.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 199.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 275

Rack travel in mm : 6.40
Tolerance mm : + 0.20

Del. quantity
cm³/1000 strokes : 17.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 1.35
Tolerance mm : + 0.10

Rated speed rpm : 1058
guide sleeve
travel mm : 8.05
Tolerance mm : + 0.10

Rated speed rpm : 676
guide sleeve
travel mm : 4.50
Tolerance mm : + 0.25

Rated speed rpm : 301
guide sleeve
travel mm : 1.75
Tolerance mm : + 0.25

Rated speed rpm : 351
guide sleeve
travel mm : 2.55
Tolerance mm : + 0.25

Rated speed rpm : 380
guide sleeve
travel mm : 2.65
Tolerance mm : + 0.25

GUIDE SLEEVE POSITION

Rated speed rpm : 1150

Rack travel in mm : 12.70
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Del. quantity
cm³/1000 strokes : 199.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 119.0
tolerance degree : + 4.0

rack travel mm : 12.80
Rated speed rpm : 1045
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1160
Tolerance 1/min : + 15

rack travel mm : 0.70
Tolerance mm : + 0.70
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 82.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 275

rack travel mm : 5.00
Tolerance mm : + 0.10
Rated speed rpm : 175
CRT mm min. : > 6.50

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 325

TORQUE CONTROL

Rated speed rpm : 850
rack travel mm : 13.85
Tolerance mm : + 0.05
Rated speed rpm : 1000
rack travel mm : 13.80
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
rack travel mm : 13.85
Tolerance mm : + 0.05

MEASUREMENT

Rated speed rpm : 600
rack travel mm : 13.25
Tolerance mm : + 0.05
Rated speed rpm : 600
rack travel mm : 11.60
Tolerance mm : + 0.10
rack travel mm : 12.10
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 12.80
Rated speed rpm : 1045
Tolerance 1/min : + 5

LOW IDLE

Rated speed rpm : 275
rack travel mm : 6.40
Tolerance mm : + 0.20
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.03.94
Test oil : ISO 4113

Combination No. : 0402736849

Injection pump
Pump designation : PES6P120A720/3LS7251
EP type number : 0412726860

Governor
Governor design. : RQV300...1000PA962
 : -12K
Governor no. : 0421815407

Cust. part No. : 3-7373

Customer-spec. information
Customer : MAN
Motor : D2866LF09
Power KW : 398.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750089

L24

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.85
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 15.50
Tolerance mm : ± 0.50

Firing order : 6- 2- 4- 1- 5-
 : 3

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 13.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 294.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 10.0

Check tolerance
cm³/1000S. : 14.0

2nd speed rpm : 300

Rack travel in mm : 5.20
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 32.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.54
Tolerance mm : ± 0.25

Rated speed rpm : 1060
guide sleeve
travel mm : 10.39
Tolerance mm : ± 0.25

Rated speed rpm : 769
guide sleeve
travel mm : 6.95
Tolerance mm : ± 0.25

Rated speed rpm : 324
guide sleeve
travel mm : 1.86
Tolerance mm : ± 0.25

Rated speed rpm : 374
guide sleeve
travel mm : 2.56
Tolerance mm : ± 0.25

Rated speed rpm : 480
guide sleeve
travel mm : 3.65
Tolerance mm : ± 0.25

Rated speed rpm : 1260
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1120

Rack travel in mm : 12.50
Tolerance mm : ± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 294.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spread
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

RATED SPEED

control lever
position degree : 300.0
tolerance degree : ± 4.0

rack travel mm : 12.40
Rated speed rpm : 1045
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1140
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 252.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + 0.10

Rated speed rpm : 200
CRT mm min. : > 6.70

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 330

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 13.95
Tolerance mm : + 0.05

Rated speed rpm : 1000
rack travel mm : 13.50
Tolerance mm : + 0.10

Rated speed rpm : 750
rack travel mm : 13.40
Tolerance mm : + 0.10

Rated speed rpm : 750
rack travel mm : 6.50
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 900
rack travel mm : 13.95
Tolerance mm : + 0.05

MEASUREMENT

Rated speed rpm : 900

rack travel mm : 9.10
Tolerance mm : + 0.10

Rated speed rpm : 900

rack travel mm : 11.90
Tolerance mm : + 0.20

rack travel mm : 9.45
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 240
Check
speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 269.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 287.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : + 5.0
Check tolerance
cm³/1000S. : + 8.0
Spreed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 169.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 12.40
Rated speed rpm : 1045
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 32.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.03.94
Test oil : ISO 4113
Combination No. : 0402648970
Injection pump
Pump designation : PE8P120A320LS7863
EP type number : 0412628874
Governor
Governor design. : RQV300...950PA1108K
Governor no. : 0421815369

Cust. part No. : 0240748402

Customer-spec. information
Customer : MB-NFZ
Motor : OM442 LA
Power KW : 370.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 14.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 14.80
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 282.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.70
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.52
Tolerance mm : \pm 0.15

Rated speed rpm : 1008
guide sleeve
travel mm : 9.83
Tolerance mm : \pm 0.20

Rated speed rpm : 730
guide sleeve
travel mm : 6.21
Tolerance mm : \pm 0.25

Rated speed rpm : 318

guide sleeve
travel mm : 1.80
Tolerance mm : \pm 0.25

Rated speed rpm : 368
guide sleeve
travel mm : 2.50
Tolerance mm : \pm 0.25

Rated speed rpm : 460
guide sleeve
travel mm : 3.34
Tolerance mm : \pm 0.25

Rated speed rpm : 1220
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1070

Rack travel in mm : 13.80
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 282.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 121.0
tolerance degree : \pm 4.0

rack travel mm : 13.80
Rated speed rpm : 995
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1095
Tolerance 1/min : \pm 15

rack travel mm : 0.75

Tolerance mm : \pm 0.75
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 74.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : $>$ 7.30

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 14.80
Tolerance mm : \pm 0.05

Rated speed rpm : 850
rack travel mm : 15.00
Tolerance mm : \pm 0.10

Rated speed rpm : 750
rack travel mm : 14.50
Tolerance mm : \pm 0.10

Rated speed rpm : 700
rack travel mm : 14.20
Tolerance mm : \pm 0.10

Rated speed rpm : 650
rack travel mm : 14.00
Tolerance mm : \pm 0.10

Rated speed rpm : 550
rack travel mm : 13.95
Tolerance mm : \pm 0.10

Rated speed rpm : 400
rack travel mm : 12.10
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 850
rack travel mm : 15.00
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 850
rack travel mm : 7.95
Tolerance mm : \pm 0.15

Rated speed rpm : 850
rack travel mm : 12.10
Tolerance mm : \pm 0.10

rack travel mm : 8.80
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 220
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 277.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 268.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed

Tolerance
 cm3/1000 strokes : 8.0
 Check tolerance
 cm3/1000S. : 12.0

 Rated speed rpm : 400
 Del. quantity
 cm3/1000 strokes : 194.0
 Tolerance
 cm3/1000 strokes : \pm 1.5
 Check tolerance
 cm3/1000S. : \pm 4.5

 Rated speed rpm : 500
 Del. quantity
 cm3/1000 strokes : 133.0
 Tolerance
 cm3/1000 strokes : \pm 1.0
 Check tolerance
 cm3/1000S. : \pm 4.0
 Spreed
 Tolerance
 cm3/1000 strokes : 8.0
 Check tolerance
 cm3/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.80
 Rated speed rpm : 995
 Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
 rack travel mm : 11.80
 Tolerance mm : \pm 0.40
 Del. quantity
 cm3/1000 strokes : 130.0
 Tolerance
 cm3/1000 strokes : \pm 10.0
 Check tolerance
 cm3/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
 rack travel mm : 5.70
 Tolerance mm : \pm 0.30
 Del. quantity
 cm3/1000 strokes : 19.0
 Tolerance
 cm3/1000 strokes : \pm 3.0

Check tolerance
 cm3/1000S. : \pm 6.0
 Spreed
 Tolerance
 cm3/1000 strokes : 6.0
 Check tolerance
 cm3/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.03.94
Test oil : ISO 4113
Combination No. : 0401846935
Injection pump
Pump designation : PE6P120A320RS3262
EP type number : 0411826797
Governor
Governor design. : RQV300...1050PA232
: -4
Governor no. : 0421813883
Cust. part No. : 11031101-PO3 V.3/94

Customer spec. information
Customer : VME
Motor : TD102 GC
Power KW : 180.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1457413010

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1688901019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750075

Outside diameter : 8.0

MD4

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.65
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 9.45
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 175.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1150

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 175.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 54.0
tolerance degree : ± 4.0

control lever
position degree : 112.0
tolerance degree : ± 4.0

rack travel mm : 8.45
Rated speed rpm : 1095
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1165

Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 84.0
tolerance degree : ± 4.0

control lever
position degree : 24.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.40
Tolerance mm : ± 0.20

Rated speed rpm : 100

CRT mm min. : > 6.90

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 355

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 9.45
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.20
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 170
rack travel mm : 0.20
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 172.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 8.45
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 175.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.03.94
Test oil : ISO 4113
Combination No. : 0402646795
Injection pump
Pump designation : PE6P120A320LS7858-1
EP type number : 0412626911
Governor
Governor design. : RQV300...1050PA1033
Governor no. : 0421814027
Cust. part No. : 0230749002

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 180.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0
Test nozzle holder
assembly : 1688901105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

MD7

Lube oil : 1409918004
Test lines : 1680750075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 5.55
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 20.50
Tolerance mm : ± 0.50
Firing order : 6- 3- 5- 2- 4-
: 1-
Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.15
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 171.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.20
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 0.72
Tolerance mm : \pm 0.20

Rated speed rpm : 1109
guide sleeve
travel mm : 8.42
Tolerance mm : \pm 0.15

Rated speed rpm : 1640
guide sleeve
travel mm : 24.93
Tolerance mm : \pm 0.25

Rated speed rpm : 575

guide sleeve
travel mm : 4.52
Tolerance mm : \pm 0.25

Rated speed rpm : 625
guide sleeve
travel mm : 4.97
Tolerance mm : \pm 0.25

Rated speed rpm : 840
guide sleeve
travel mm : 6.19
Tolerance mm : \pm 0.25

Rated speed rpm : 1190
guide sleeve
travel mm : 10.00
Tolerance mm : \pm 0.25

Rated speed rpm : 1290
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1170

Rack travel in mm : 10.10
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 171.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 121.0
tolerance degree : \pm 4.0

rack travel mm : 10.15
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1160
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 83.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : $>$ 8.10

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 11.15
Tolerance mm : \pm 0.05

Rated speed rpm : 550
rack travel mm : 11.15
Tolerance mm : \pm 0.05

Rated speed rpm : 400
rack travel mm : 10.55
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
rack travel mm : 11.15
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 400

MD9

rack travel mm : 10.30
Tolerance mm : \pm 0.15

Rated speed rpm : 400

rack travel mm : 10.90
Tolerance mm : \pm 0.10

rack travel mm : 10.55
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 220
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 162.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 119.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.5

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 10.15
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.03.94
Test oil : ISO 4113

Combination No. : 0402646797

Injection pump
Pump designation : PE6P120A320LS7858
EP type number : 0412626875

Governor
Governor design. : RQ300/1050PA1030-4
Governor no. : C421801664

Cust. part No. : 0230748902

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 180.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

M11

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.15
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 171.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.20
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.48
Tolerance mm : \pm 0.10

Rated speed rpm : 1108
guide sleeve
travel mm : 6.39
Tolerance mm : \pm 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 392

guide sleeve
travel mm : 4.64
Tolerance mm : \pm 0.10

Rated speed rpm : 490
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1280
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 171.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 91.0
tolerance degree : \pm 4.0

rack travel mm : 10.15
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1175
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 380
Tolerance 1/min : \pm 20

Rated speed rpm : 200

CRT mm min. : $>$ 7.60

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 11.15
Tolerance mm : \pm 0.05

Rated speed rpm : 550
rack travel mm : 11.15
Tolerance mm : \pm 0.05

Rated speed rpm : 400
rack travel mm : 10.55
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
rack travel mm : 11.15
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 400
rack travel mm : 10.30
Tolerance mm : \pm 0.15

Rated speed rpm : 400
rack travel mm : 10.90
Tolerance mm : \pm 0.10

rack travel mm : 10.55
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 162.0
Tolerance

cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 119.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.5

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 10.15
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.10
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 55.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.06.94
Test oil : ISO 4113

Combination No. : 0402736828

Injection pump
Pump designation : PES6P120A720/3LS7251
EP type number : 0412726860

Governor
Governor design. : RGV300...1000PA960
: -7K
Governor no. : 0421815307

Cust. part No. : 3-7207

Customer-spec. information
Customer : MAN
Motor : D2866LF09
Power KW : 309.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750015

M15

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 4.85
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 15.50
Tolerance mm : + 0.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm	:	900
<hr/>		
Rack travel in mm	:	13.95
Tolerance mm	:	± 0.05
<hr/>		
Del. quantity cm ³ /1000 strokes	:	296.0
<hr/>		
Tolerance cm ³ /1000 strokes	:	± 1.0
<hr/>		
Check tolerance cm ³ /1000S.	:	± 4.0
<hr/>		
Spread Tolerance cm ³ /1000 strokes	:	10.0
<hr/>		
Check tolerance cm ³ /1000S.	:	14.0
<hr/>		
2nd speed rpm	:	300
<hr/>		
Rack travel in mm	:	5.20
Tolerance mm	:	± 0.20
Del. quantity cm ³ /1000 strokes	:	32.0
Tolerance cm ³ /1000 strokes	:	± 3.0
Check tolerance cm ³ /1000S.	:	± 6.0
Spread Tolerance cm ³ /1000 strokes	:	8.0
Check tolerance cm ³ /1000S.	:	12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	300
guide sleeve travel mm	:	2.16
Tolerance mm	:	± 0.25
<hr/>		
Rated speed rpm	:	1058
guide sleeve travel mm	:	10.48
Tolerance mm	:	± 0.25
<hr/>		
Rated speed rpm	:	749
guide sleeve travel mm	:	6.97
Tolerance mm	:	± 0.25

Rated speed rpm	:	293
guide sleeve travel mm	:	1.97
Tolerance mm	:	± 0.25
<hr/>		
Rated speed rpm	:	343
guide sleeve travel mm	:	2.62
Tolerance mm	:	± 0.25
<hr/>		
Rated speed rpm	:	450
guide sleeve travel mm	:	3.71
Tolerance mm	:	± 0.25
<hr/>		
Rated speed rpm	:	1260
guide sleeve travel mm	:	13.50
Tolerance mm	:	± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	:	1120
<hr/>		
Rack travel in mm	:	12.50
Tolerance mm	:	± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	900
Del. quantity cm ³ /1000 strokes	:	296.0
Tolerance cm ³ /1000 strokes	:	± 1.0
Check tolerance cm ³ /1000S.	:	± 4.0
Spread Tolerance cm ³ /1000 strokes	:	10.0
Check tolerance cm ³ /1000S.	:	14.0

RATED SPEED

control lever position degree	:	300.0
tolerance degree	:	± 4.0
<hr/>		
rack travel mm	:	12.50
Rated speed rpm	:	1045
Tolerance 1/min	:	± 5
<hr/>		
rack travel mm	:	4.00
Rated speed rpm	:	1150
Tolerance 1/min	:	± 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 256.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : $>$ 6.70

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 360

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 13.95
Tolerance mm : \pm 0.05

Rated speed rpm : 1000
rack travel mm : 13.50
Tolerance mm : \pm 0.10

Rated speed rpm : 750
rack travel mm : 13.40
Tolerance mm : \pm 0.10

Rated speed rpm : 750
rack travel mm : 6.50
Tolerance mm : \pm 0.10

Rated speed rpm : 400
rack travel mm : 12.00
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 900
rack travel mm : 13.95
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 900
rack travel mm : 9.10
Tolerance mm : \pm 0.10

Rated speed rpm : 900
rack travel mm : 11.95
Tolerance mm : \pm 0.15

rack travel mm : 9.45
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100
Check
speed 1/min : $>$ 80
Rated speed rpm : $<$ 240
Check
speed 1/min : $<$ 260

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 269.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 6.0

Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 287.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 6.0

Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 109.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000s. : \pm 8.0

Speed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000s. : 14.0

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 169.0

Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 12.50
Rated speed rpm : 1045
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 32.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.06.94
Test oil : ISO 4113

Combination No. : 0402648926

Injection pump
Pump designation : PE8P120A320LS7840
EP type number : 0412628850

Governor
Governor design. : RQ300/1050PA972-11
Governor no. : 0421801739

Cust. part No. : 0220747002

Customer spec. information
Customer : MB-NFZ
Motor : OM442 A
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.60

Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 194.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 11.0

2nd speed rpm : 600

Rack travel in mm : 4.30
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.85
Tolerance mm : \pm 0.10

Rated speed rpm : 1104
guide sleeve
travel mm : 6.37
Tolerance mm : \pm 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 402
guide sleeve
travel mm : 3.68
Tolerance mm : \pm 0.10

Rated speed rpm : 540
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1290
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 194.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 11.0

RATED SPEED

control lever
position degree : 96.0
tolerance degree : \pm 4.0

rack travel mm : 11.60
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1200
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 74.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 435
Tolerance 1/min : \pm 20

Rated speed rpm : 200

CRT mm min. : $>$ 7.90

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 12.60
Tolerance mm : \pm 0.10

Rated speed rpm : 800
rack travel mm : 12.60
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500

MEASUREMENT

Rated speed rpm : 500
rack travel mm : 0.45
Tolerance mm : \pm 0.05

Rated speed rpm : 500

rack travel mm : 1.45
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 195.0
Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 138.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.60
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 600
rack travel mm : 4.30
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.06.94
Test oil : ISO 4113

Combination No. : 0402648929

Injection pump
Pump designation : PE8P120A320LS7847-2
EP type number : 0412628885

Governor
Governor design. : RQV300...950PA1033
Governor no. : 0421814093

Cust. part No. : 0230741402

Customer-spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

M26

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	: 239.0
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Spreed Tolerance cm ³ /1000 strokes	: 6.0
Check tolerance cm ³ /1000S.	: 9.0
2nd speed rpm	: 300
Rack travel in mm	: 5.70
Tolerance mm	: ± 0.30
Del. quantity cm ³ /1000 strokes	: 13.0
Tolerance cm ³ /1000 strokes	: ± 3.0
Check tolerance cm ³ /1000S.	: ± 6.0
Spreed Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve travel mm	: 1.49
Tolerance mm	: ± 0.15
Rated speed rpm	: 1009
guide sleeve travel mm	: 8.52
Tolerance mm	: ± 0.20
Rated speed rpm	: 589
guide sleeve travel mm	: 4.97
Tolerance mm	: ± 0.25
Rated speed rpm	: 639
guide sleeve travel mm	: 5.51
Tolerance mm	: ± 0.25

Rated speed rpm	: 790
guide sleeve travel mm	: 6.48
Tolerance mm	: ± 0.25

Rated speed rpm	: 1100
guide sleeve travel mm	: 10.00
Tolerance mm	: ± 0.25

Rated speed rpm	: 1210
guide sleeve travel mm	: 11.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1045
Rack travel in mm	: 13.00
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 550
Del. quantity cm ³ /1000 strokes	: 239.0
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Spreed Tolerance cm ³ /1000 strokes	: 6.0
Check tolerance cm ³ /1000S.	: 9.0

RATED SPEED

control lever position degree	: 122.0
tolerance degree	: ± 4.0
rack travel mm	: 13.00
Rated speed rpm	: 998
Tolerance 1/min	: ± 8
rack travel mm	: 4.00
Rated speed rpm	: 1095
Tolerance 1/min	: ± 15
rack travel mm	: 0.75
Tolerance mm	: ± 0.75
Rated speed rpm	: 1350

LOW IDLE

control lever
position degree : 68.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : \pm 0.10

Rated speed rpm : 200

CRT mm min. : $>$ 7.60

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.80
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 14.05
Tolerance mm : \pm 0.10

Rated speed rpm : 900
rack travel mm : 14.10
Tolerance mm : \pm 0.10

Rated speed rpm : 875
rack travel mm : 14.25
Tolerance mm : \pm 0.10

Rated speed rpm : 800
rack travel mm : 14.75
Tolerance mm : \pm 0.10

Rated speed rpm : 400
rack travel mm : 12.90
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
rack travel mm : 14.80

M28

Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 400
rack travel mm : 10.60
Tolerance mm : \pm 0.20

Rated speed rpm : 400

rack travel mm : 12.90
Tolerance mm : \pm 0.10

rack travel mm : 11.90
Tolerance mm : \pm 0.15

START CUT-OUT

Rated speed rpm : $>$ 100

Check
speed 1/min : $>$ 80

Rated speed rpm : $<$ 220

Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 214.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 166.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.5

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 108.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 998
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 15.30
Tolerance mm : ± 0.25
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.06.94
Test oil : ISO 4113

Combination No. : 0402648931B

Injection pump
Pump designation : PE8P120A320LS7847-3
EP type number : 0412628886

Governor
Governor design. : RQ300/950PA1032-7
Governor no. : 0421801715

Cust. part No. : 0230741302

Customer-spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

N02

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8-7-2-6-3
 : -5-4-1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 239.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.70
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.74
Tolerance mm : \pm 0.10

Rated speed rpm : 1005
guide sleeve
travel mm : 6.84
Tolerance mm : \pm 0.10

Rated speed rpm : 950
guide sleeve
travel mm : 6.50
Tolerance mm : \pm 0.10

Rated speed rpm : 736

guide sleeve
travel mm : 6.13
Tolerance mm : \pm 0.10

Rated speed rpm : 415
guide sleeve
travel mm : 3.82
Tolerance mm : \pm 0.10

Rated speed rpm : 550
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1160
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

Rated speed rpm : 833
guide sleeve
travel mm : 6.38
Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 239.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 97.0
tolerance degree : \pm 4.0

rack travel mm : 13.00
Rated speed rpm : 998
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1085
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 73.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 420
Tolerance 1/min : \pm 20

Rated speed rpm : 200

CRT mm min. : $>$ 7.50

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.80
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 14.00
Tolerance mm : \pm 0.10

Rated speed rpm : 900
rack travel mm : 14.10
Tolerance mm : \pm 0.10

Rated speed rpm : 875
rack travel mm : 14.25
Tolerance mm : \pm 0.10

Rated speed rpm : 800
rack travel mm : 14.75
Tolerance mm : \pm 0.10

Rated speed rpm : 400
rack travel mm : 12.90
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
rack travel mm : 14.80
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 400
rack travel mm : 10.60
Tolerance mm : \pm 0.20

Rated speed rpm : 400
rack travel mm : 12.90
Tolerance mm : \pm 0.10

rack travel mm : 11.90
Tolerance mm : \pm 0.15

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 214.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 166.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.5

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 108.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 998
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.60
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 60.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.06.94
Test oil : ISO 4113

Combination No. : 0402648931C

Injection pump
Pump designation : PE8P120A320LS7847-2
EP type number : 0412628885

Governor
Governor design. : RQ300/950PA1032-7
Governor no. : 0421801715

Cust. part No. : 0230741302

Customer-spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

NO6

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 239.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.70
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.74
Tolerance mm : \pm 0.10

Rated speed rpm : 1005
guide sleeve
travel mm : 6.84
Tolerance mm : \pm 0.10

Rated speed rpm : 950
guide sleeve
travel mm : 6.50
Tolerance mm : \pm 0.10

Rated speed rpm : 736

guide sleeve
travel mm : 6.13
Tolerance mm : \pm 0.10

Rated speed rpm : 415
guide sleeve
travel mm : 3.82
Tolerance mm : \pm 0.10

Rated speed rpm : 550
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1160
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

Rated speed rpm : 833
guide sleeve
travel mm : 6.38
Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 239.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 97.0
tolerance degree : \pm 4.0

rack travel mm : 13.00
Rated speed rpm : 998
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1085
Tolerance 1/min : + 15

rack travel mm : 0.75
Tolerance mm : + 0.75
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 73.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 420
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 7.50

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.80
Tolerance mm : + 0.05

Rated speed rpm : 950
rack travel mm : 14.00
Tolerance mm : + 0.10

Rated speed rpm : 900
rack travel mm : 14.10
Tolerance mm : + 0.10

Rated speed rpm : 875
rack travel mm : 14.25
Tolerance mm : + 0.10

Rated speed rpm : 800
rack travel mm : 14.75
Tolerance mm : + 0.10

Rated speed rpm : 400
rack travel mm : 12.90
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
rack travel mm : 14.80
Tolerance mm : + 0.05

MEASUREMENT

Rated speed rpm : 400
rack travel mm : 10.60
Tolerance mm : + 0.20

Rated speed rpm : 400
rack travel mm : 12.90
Tolerance mm : + 0.10

rack travel mm : 11.90
Tolerance mm : + 0.15

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 214.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0
Spreed

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 166.0
Tolerance
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000S. : + 4.5

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 108.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spreed

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 998
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.60
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 60.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.06.94
Test oil : ISO 4113

Combination No. : 0402648940

Injection pump
Pump designation : PE8P120A320LS7847-3
EP type number : 0412628886

Governor
Governor design. : RQ300/950PA1032-11
Governor no. : 0421801737

Cust. part No. : 0240740602

Customer spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.40

Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 226.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.70
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.63
Tolerance mm : \pm 0.10

Rated speed rpm : 1005
guide sleeve
travel mm : 6.69
Tolerance mm : \pm 0.10

Rated speed rpm : 950
guide sleeve
travel mm : 6.35
Tolerance mm : \pm 0.10

Rated speed rpm : 800
guide sleeve
travel mm : 6.09
Tolerance mm : \pm 0.10

Rated speed rpm : 415
guide sleeve
travel mm : 3.72
Tolerance mm : \pm 0.10

Rated speed rpm : 550
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1160
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

Rated speed rpm : 864
guide sleeve
travel mm : 6.26
Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 226.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 97.0
tolerance degree : \pm 4.0

rack travel mm : 13.00
Rated speed rpm : 998
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1080
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 72.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 405
Tolerance 1/min : \pm 20

Rated speed rpm : 200

CRT mm min. : $>$ 7.00

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.40
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 14.00
Tolerance mm : \pm 0.10

Rated speed rpm : 825
rack travel mm : 14.40
Tolerance mm : \pm 0.05

Rated speed rpm : 400
rack travel mm : 12.90
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
rack travel mm : 14.40
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 400

N12

rack travel mm : 10.60
Tolerance mm : \pm 0.20

Rated speed rpm : 400

rack travel mm : 12.90
Tolerance mm : \pm 0.10

rack travel mm : 11.90
Tolerance mm : \pm 0.15

START CUT-OUT

Rated speed rpm : $>$ 100

Check
speed 1/min : $>$ 80

Rated speed rpm : $>$ 220

Check
speed 1/min : $>$ 240

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950

Del. quantity
cm³/1000 strokes : 214.0

Tolerance

cm³/1000 strokes : \pm 2.0

Check tolerance

cm³/1000S. : \pm 5.0

Spread

Tolerance

cm³/1000 strokes : 8.0

Check tolerance

cm³/1000S. : 12.0

Rated speed rpm : 400

Del. quantity

cm³/1000 strokes : 166.0

Tolerance

cm³/1000 strokes : \pm 1.5

Check tolerance

cm³/1000S. : \pm 4.5

Rated speed rpm : 400

Del. quantity

cm³/1000 strokes : 108.0

Tolerance

cm³/1000 strokes : \pm 1.0

Check tolerance

cm³/1000S. : \pm 4.0

Spread

Tolerance

cm³/1000 strokes : 8.0

Check tolerance

cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 998
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.06.94

Test oil : ISO 4113

Combination No. : 0402648940B

Injection pump

Pump designation : PE8P120A320LS7847-3

EP type number : 0412628886

Governor

Governer design. : RQ300/950PA1032-8

Governer no. : 0421801723

Cust. part No. : 0240740602

Customer-spec. information

Customer : MB-NFZ

Motor : OM402 LA

Power KW : 280.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holde assembly

: 1688901105

Opening pressure bar

: 208.5

Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0

Tolerance bar : ± 1.0

Prestroke mm : 5.55

Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50

Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance : ± 0.30

Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.40

Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 226.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.70
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.63
Tolerance mm : \pm 0.10

Rated speed rpm : 1005
guide sleeve
travel mm : 6.69
Tolerance mm : \pm 0.10

Rated speed rpm : 950
guide sleeve
travel mm : 6.35
Tolerance mm : \pm 0.10

Rated speed rpm : 800
guide sleeve
travel mm : 6.09
Tolerance mm : \pm 0.10

Rated speed rpm : 415
guide sleeve
travel mm : 3.72
Tolerance mm : \pm 0.10

Rated speed rpm : 550
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1160
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

Rated speed rpm : 864
guide sleeve
travel mm : 6.26
Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 226.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 97.0
tolerance degree : \pm 4.0

rack travel mm : 13.00
Rated speed rpm : 998
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1080
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 72.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 405
Tolerance 1/min : \pm 20

Rated speed rpm : 200
CRT mm min. : $>$ 7.00

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.40
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 14.00
Tolerance mm : \pm 0.10

Rated speed rpm : 825
rack travel mm : 14.40
Tolerance mm : \pm 0.05

Rated speed rpm : 400
rack travel mm : 12.90
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
rack travel mm : 14.40
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 400

N16

rack travel mm : 10.60
Tolerance mm : \pm 0.20

Rated speed rpm : 400

rack travel mm : 12.90
Tolerance mm : \pm 0.10

rack travel mm : 11.90
Tolerance mm : \pm 0.15

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 214.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 166.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.5

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 108.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 998
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.60
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 60.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.05.94

Test oil : ISO 4113

Combination No. : 0402646977

Injection pump

Pump designation : PE6P120A320LS7846

EP type number : 0412626865

Governor

Governer design. : RQ300/1050PA1030-14

Governer no. : 0421801731

Cust. part No. : 0230741002

Customer-spec. information

Customer : MB-NFZ

Motor : OM401 LA

Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holde assembly

: 1688901105

Opening pressure bar : 208.5

Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0

Tolerance bar : ± 1.0

Prestroke mm : 5.25

Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50

Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240

: -300-360

Tolerance : ± 0.30

Check

tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.00
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 231.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.20
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.88
Tolerance mm : \pm 0.10

Rated speed rpm : 1104
guide sleeve
travel mm : 6.37
Tolerance mm : \pm 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 387

guide sleeve
travel mm : 3.87
Tolerance mm : \pm 0.10

Rated speed rpm : 510
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1280
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 231.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 97.0
tolerance degree : \pm 4.0

rack travel mm : 12.00
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1195
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 385
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 7.50

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.00
Tolerance mm : ± 0.05

Rated speed rpm : 1050
rack travel mm : 13.00
Tolerance mm : ± 0.10

Rated speed rpm : 400
rack travel mm : 11.55
Tolerance mm : ± 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
rack travel mm : 13.00
Tolerance mm : ± 0.05

MEASUREMENT

Rated speed rpm : 400
rack travel mm : 10.35
Tolerance mm : ± 0.15

Rated speed rpm : 400

rack travel mm : 11.55
Tolerance mm : ± 0.10

rack travel mm : 12.50
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 228.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 158.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.5

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 132.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1098
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 280.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.05.94
Test oil : ISO 4113

Combination No. : 0402646979

Injection pump
Pump designation : PE6P120A320LS7846
EP type number : 0412626865

Governor
Governor design. : RQ300/950PA1032-9
Governor no. : 0421801733

Cust. part No. : 0150745602

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power kW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

N22

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.00
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 231.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.20
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.19
Tolerance mm : \pm 0.10

Rated speed rpm : 1004
guide sleeve
travel mm : 6.36
Tolerance mm : \pm 0.10

Rated speed rpm : 950
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 414

guide sleeve
travel mm : 4.95
Tolerance mm : \pm 0.10

Rated speed rpm : 500
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1170
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 231.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 95.0
tolerance degree : \pm 4.0

rack travel mm : 11.90
Rated speed rpm : 998
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1085
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 70.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 380
Tolerance 1/min : \pm 20

Rated speed rpm : 200

CRT mm min. : $>$ 7.50

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.00
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 13.00
Tolerance mm : \pm 0.05

Rated speed rpm : 400
rack travel mm : 11.55
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
rack travel mm : 13.00
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 400
rack travel mm : 10.35
Tolerance mm : \pm 0.15

Rated speed rpm : 400

rack travel mm : 11.55
Tolerance mm : \pm 0.10

rack travel mm : 12.50
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950

Del. quantity
cm³/1000 strokes : 229.0

Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 5.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 400

Del. quantity
cm³/1000 strokes : 158.0

Tolerance
cm³/1000 strokes : \pm 1.5

Check tolerance
cm³/1000S. : \pm 4.5

Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 132.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.90

Rated speed rpm : 998

Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity
cm³/1000 strokes : 280.0

Tolerance
cm³/1000 strokes : \pm 15.0

Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm	:	300
rack travel mm	:	5.20
Tolerance mm	:	+ 0.30
Del. quantity		
cm ³ /1000 strokes	:	13.0
Tolerance		
cm ³ /1000 strokes	:	+ 3.0
Check tolerance		
cm ³ /1000S.	:	+ 6.0
Spreed		
Tolerance		
cm ³ /1000 strokes	:	6.0
Check tolerance		
cm ³ /1000S.	:	10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.05.94
Test oil : ISO 4113

Combination No. : 0402646980

Injection pump
Pump designation : PE6P120A320LS7846
EP type number : 0412626865

Governor
Governor design. : RQV300...950PA1033
Governor no. : 0421813990

Cust. part No. : 0150747502

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

N26

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.00
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 231.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.20
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed
Tolerance

cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1066

Rack travel in mm : 11.90
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 231.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed

N27

Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 120.0
tolerance degree : \pm 4.0

rack travel mm : 12.00
Rated speed rpm : 995
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1080
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 80.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : \pm 0.10

Rated speed rpm : 200

CRT mm min. : $>$ 7.50

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.00
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 13.00
Tolerance mm : \pm 0.05

Rated speed rpm : 400

rack travel mm : 11.55
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
rack travel mm : 13.00
Tolerance mm : ± 0.05

MEASUREMENT

Rated speed rpm : 400
rack travel mm : 10.35
Tolerance mm : ± 0.15

Rated speed rpm : 400
rack travel mm : 12.50
Tolerance mm : ± 0.10

rack travel mm : 11.55
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 229.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 158.0
Tolerance
cm³/1000 strokes : ± 1.5

Check tolerance
cm³/1000S. : ± 4.5

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 132.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 995
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0